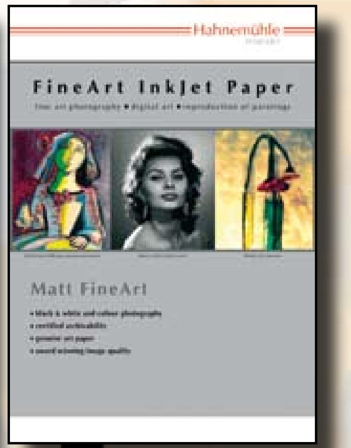
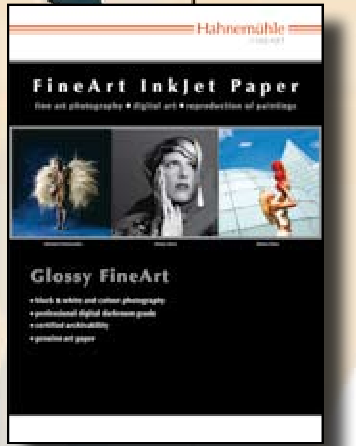
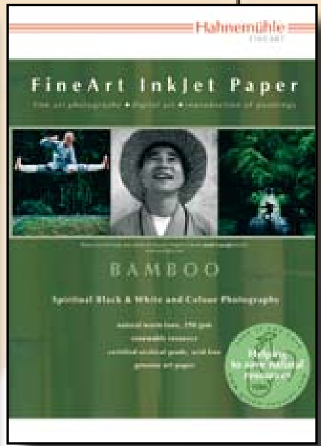






Hahnemühle re-badges the range and produces two new canvas media

The Hahnemühle media range has undergone a facelift to the box-branding, along with some new names and new materials. We could do worse than opening this piece with a quotation, right from the press release, which explains everything quite well.

"

"Daguerre Canvas" and "Monet Canvas" are the two remarkable new canvas qualities from Hahnemühle. Both canvases have been specifically developed for fine art inkjet printing, and have a very fine structure.

Daguerre Canvas is an artist canvas made of poly-cotton. The high white brightness provides clear, fresh colours and contrasts for colour and black-and-white reproductions. As the name suggests, Daguerre canvas is particularly suitable for photo printing.

Monet Canvas has a neutral white base tone and is made of 100% cotton. Its outstanding characteristics are highly respected and recommended for art reproduction as well for high-quality photo printing with painting effect. The high surface weights of these new canvases, 400 gsm and 410 gsm, give them a robust, but tactile surface texture. The A3 format, available in boxes of 20 sheets, is new in the assortment for both new Canvas qualities and ideal for stretching 8 x 10" canvases. Hahnemühle's well established Canvas Satin 340 gsm, which presents a brilliant matte finish with satin coating, has now been re-branded and also gained a famous name: "Goya Canvas". It is now available in a new 17" wide roll. Due to the unique characteristics of this brand new canvas collection, Hahnemühle has created a new product group, Canvas FineArt, packaged in a distinctive white box.

In addition, Hahnemühle's well-known Digital FineArt Collection has also been restructured. New colour boxes and collection names make the choice from the extensive product range even easier for consumers. The Matt FineArt collection contains real artist papers with a matte premium inkjet coating. Their surfaces vary from smooth to textured. Matt FineArt products are easy to identify in a new silver box with a new layout. The Glossy FineArt collection comprises all products with a glossy premium inkjet coating. The gloss range extends from subtle gloss (satin) to mid lustre (pearl) through to high gloss (baryta). The new black box is the signature for this new product group. Complementing the range, Hahnemühle has also introduced an exclusive green box for its resource-saving Bamboo products which are made of 90% bamboo fibres.

"

PAPER CHASE
Hahnemühle

We were supplied with both the Daguerre and Monet canvas and so here is the detailed low-down on what we found.

Profile availability is still catching up, indeed, of the more common inkjet printers, only the Epson 2400 and 3800, along with the HP Z2100 and Z3100, along with the larger Canon ipf ranges were available as we started the review. The website will, no doubt, be catching up reasonably quickly. Faced with this dilemma we set about building our own profiles from the start.

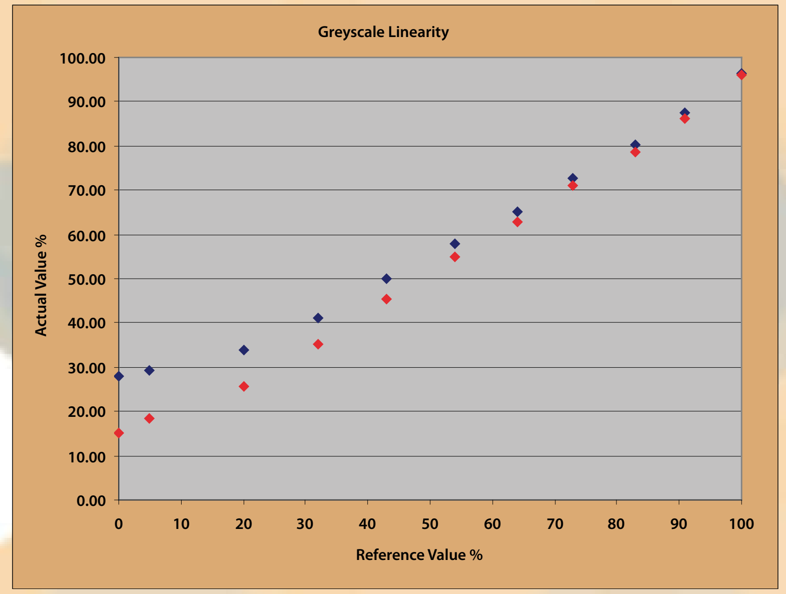
Daguerre Canvas 400gsm

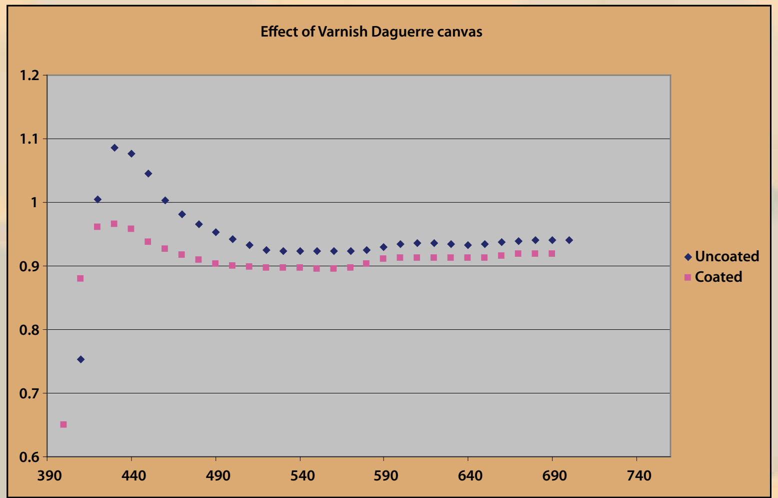
Aimed at photographic reproduction, this is a 400gsm canvas with a bright-white base coating. It is matt, and the finished media is very soft in the hand, quite floppy really – see later. Both the Monet and Daguerre are described as having 'fine structures'. We are unsure just what this means, but the coating is quite heavy, leaving a smaller trace of the canvas under-surface and therefore delivering slightly finer detail without the disruption of the hills and valleys of the weave.

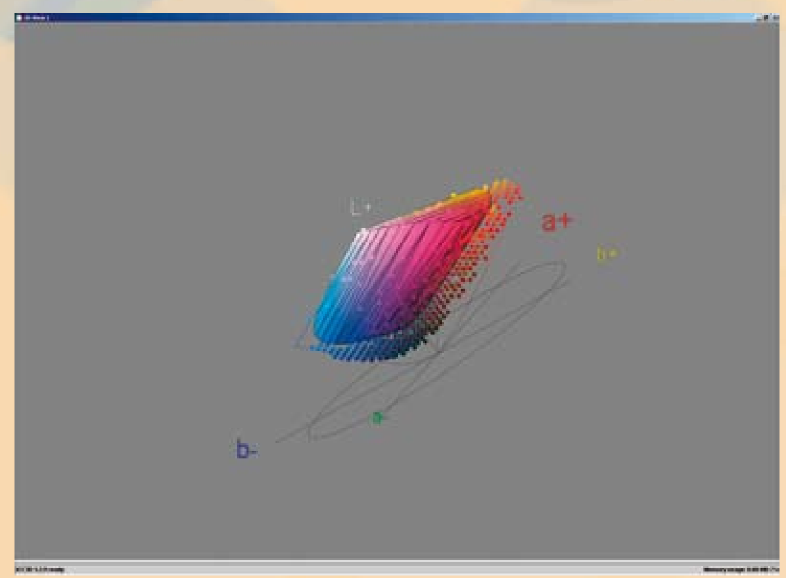
For profiling the major decision was to go with matt or photo black inks on the Epsons or the same selection, via the media choice, on the HP 9180. Hahnemühle's preference seems to be for matt variants if the available profiles are an indicator. Both new surfaces have very matt finishes and so it is reasonable to assume that some (or many) of the users will be intending to finish their prints with a varnish. Applying varnish to a print changes the density of the image and so for best practice you should make a profiling target and then varnish it before measurement. For the record we measured both the before- and after-varnishing colour audit data, and as expected the coating produced an all-round improvement in the statistics. We used two coats of DCP giclée varnish. We applied the first with a velour roller and the second with a soft, 2" brush. We found some slight 'drag-out' of pigment when we applied the first varnish coat with a brush, the roller is more gentle on the surface.

The effect of the varnish on OBA activity was also measured. The ***Lab*** lightness was reduced from 97.3 to 96.1. The base tone was closer to neutral by about 2.5 ***Lab*** points (ie not as cool blue). As the table shows, the gamut volume and Dmax were significantly improved. Metamerism was very low, exceptionally so in the uncoated state – good news for the monochrome specialists.

Effect of Coating Daguerre Canvas						
Parameter	**Un-varnished**			**Varnished**		
	L	*a*	*b*	*L*	*a*	*b*
Base white	97.3	2.9	-5.5	96.1	1.4	-2
Dmax	1.26			1.69		
Gamut Volume	486,590			723,538		
Macbeth Errors						
ΔE2000	5.6			3.2		
Lab ΔE	11.1			6.9		
Metamerism	0.1			0.5		







TOP: Adding a gloss coating leaves the highlight density relatively unchanged and progressively darkens the tone range as the Dmax limit is reached.

MIDDLE: The UV lift caused by optical brighteners is depressed by the addition of a coating. This can be a problem if the user requires the high whiteness of the canvas.

BOTTOM: Adding a coating increases the saturation over most areas of the gamut. Here you can see that the yellows are not much affected but the reds, greens and blues are considerably expanded, especially in the darker tones.

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Hahnemühle

» continued from page 117

Overall the saturation was improved and the colours were rotated a little more towards yellow (and more accurate for that rotation). The error in the lightness channel saw the highest reduction, particularly the darker colours where the additional Dmax came into play. The errors in the neutrals were almost halved, the bulk of the improvement being in the lightness channel.

Despite the compelling statistical evidence, there was not too much to choose between the prints when viewed together if the varnished versions of the 'profiled without varnish' and 'profiled with varnish' were compared (sorry about the twisted language). The improvement by profiling from a varnished target therefore made only a slight visual difference; some might actually prefer the slightly darker print! This is good news if you are forced to use a generic profile, you can simply varnish the result and take the improved saturation and density.

Printing Using the HP 9180

Unlike, say, the Epson 4800 or 3800, the HP 9180 (reviewed in this issue) is 'designed' to use canvas in sheet form. The softness of the Daguerre made it tricky to load, however, and it required a number of attempts with the various doors of the printer being opened to assist in guiding the floppy media through the rollers. At one stage the A3+ sheet was neatly rolled up inside the printer! We also took the added precaution of supporting the media at the back of the printer with a spare piece of mount board.

The print itself came through relatively unscathed, although there was a very small amount of scuffing near the back-end of the print and a bit of clicking while it was being printed. This might not be a problem with true sheet media, we cut ours from a roll and so it had a natural tendency to curl downwards. Overall though, printers that do not have suction to keep media flat are always going to struggle with canvas media.

The HP driver profile was a reasonable match to the Daguerre, the final print was a little more magenta, but the Dmax was higher at 1.57 (before coating). This is a full 10% better than the Epson Photo Black ink. With the HP profile being mapped to a less brightened base tone, the hue values in the statistics were a little compromised. After varnishing the Dmax was improved to 1.99.

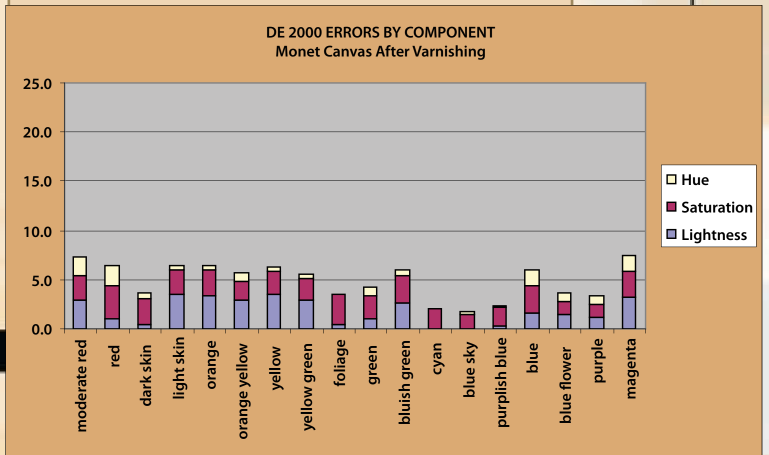
Printing using the Epson 3800

Use of the 3800 allowed us to investigate Epson Matte Black ink, probably the preferred ink choice for this media. Initially we could not get the canvas into the Front Manual feed tray and we solved this by placing the canvas on a thin card and feeding both through initially. We used Matte Ink and Watercolor Radiant White as our set-up. The out-coming print 'dived' under the media tray, but the expected car-crash did not occur as there was enough room for the media to exit under the tray, an unconventional way to exit the printer!

The print (made using the Advanced Black and White Driver) was just a tiny shade green in natural North Daylight but measured OK on the spectro. The metamerism was low at 1.0. The varnished print had a deepest black density of 1.98. After varnishing the mid-tones measured a little warm, with *Lab b* values of about 3 and the metamerism rose to 2.0 at some densities. It seems that the Watercolor Radiant White might not be a good match for this canvas and ink combination, but the ABW has the ability to tweak the base tone and so a few experiments would sort things out.

Effect of Varnish on Monet Canvas Epson 4800 PK

Parameter	Un-varnished			Varnished		
	L	*a*	*b*	*L*	*a*	*b*
Base white	96.2	0.64	0.18	95.0	0.95	0
Dmax	1.31			1.73		
Gamut Volume	505,538			706,082		
Macbeth Errors						
ΔE2000	NR			3.1		
Lab ΔE	NR			6.5		
Metamerism	NR			1.2		



Monet Canvas 410gsm

This canvas is also new. It has a neutral, white base and is made from 100% cotton in an Oxford twill weave (that is twin warp fibres with a larger diameter, single weft). It is somewhat stiffer than Daguerre, weighs 410gsm and is aimed at the fine art reproduction market.

ABOVE: The histogram shows the very low errors on the hue component with most of the error coming from saturation and lightness.

LEFT: We managed to get canvas to pass through the Epson 3800, although the near image shows it taking an unconventional route out of the printer!

We followed the same protocol of making a profile from a varnished target, giving it two coats of DCP giclée varnish. The uncoated gamut was higher than that of the Daguerre but the coated gamut was smaller than the coated Daguerre. The gamut volumes of both the new varnished materials were higher than that achieved by the Hahnemühle 340gsm Semi Gloss, a canvas we tested some time ago. The 340gsm Canvas Satin product has been renamed Goya to bring the branding into line.

We applied two coats of varnish to the Monet canvas but it did not 'gloss up' the way the Daguerre did. This might have been due to the atmospheric conditions or some property of the canvas itself. This probably depressed the Dmax a little. The bulk of the error in the colour audit data were in the lightness and saturation channels, the hue was very accurate, a blessing for fine art reproduction and presumed to be the benefit of the neutral, un-brightened surface coating. The overall impression we got from this media is that it behaved in a very orderly fashion with no flaws and no really special highlights, perhaps what is best needed for the job it is intended to perform.

PRICES

The new canvas media are very competitively priced as the RRPs below (inc VAT) show.

Size	Dagueurre	Monet	Goya
17"x12m	£80	£80	£125
A3 (20)	£45	£45	NA

CONCLUSION

The new canvas media are a significant change and bring the price of quality canvas very much lower, with no apparent loss in performance. All the data we have assembled confirm our previous findings about the effects of varnish and we remain convinced that, for the majority of applications, some form of coating is needed to maximise the impact of the final print.

The claims for a finer structure seem justified as shown by the image below. This should help prevent problems of detail in group shots (such as eyes) becoming lost in the hills and valleys of the weave.