

Carbon-BW-2010

Variable-tone 100% Carbon Printing For Most Epson Printers

www.PaulRoark.com

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100% Carbon Print Range

MIS Eboni-6, Epson 7800, Premier Art Smooth BW



Clearing Storm, Yosemite

Paul Roark

MIS LK, Crane Museo Silver Rag, 1400



Family Wedding, 1885

Digital Restoration

A. Overview

I currently use 100% carbon pigments from MIS Associates to achieve a wide range of tones from neutral to sepia, depending on the carbon type and paper used for printing. Relatively neutral B&W printing on matte paper is accomplished with MIS Associates' Eboni MK and its dilutions.

The Eboni based 1800 "3MK" inkset produces the most lightfast and stable images ever tested by Aardenburg Imaging & Archives, which publishes the most detailed and complete third party test data.¹

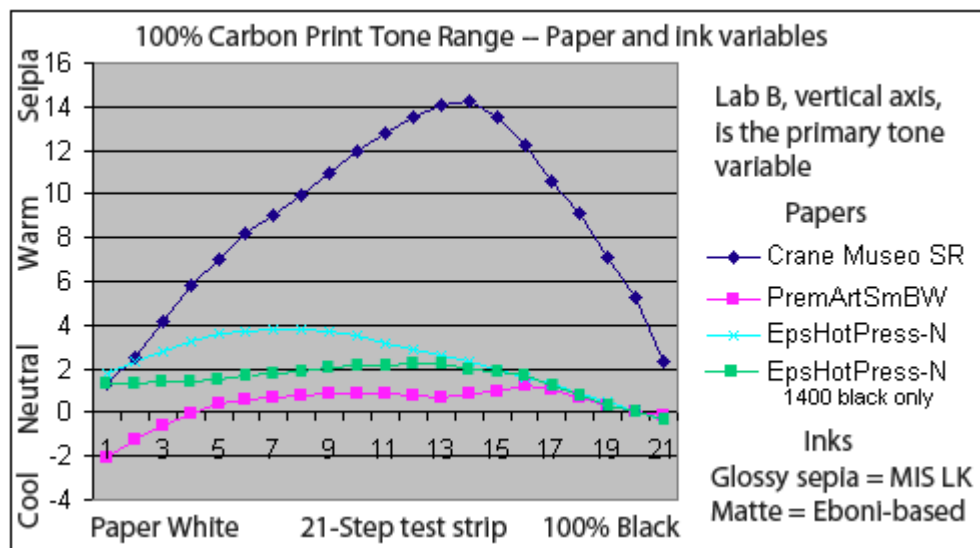
¹ See Appendix A, which contains a list of the top inksets for digital printing as of June 2010. See also <http://www.aardenburg-imaging.com/>. See Appendix A as well as <http://www.paulroark.com/BW-Info/R1800-Lightfastness.pdf> for more information on carbon ink stability.

The relatively neutral carbon printing is with Ebony-based carbon pigments on matte papers. The sepia tone is based on MIS K4 LLK and LK on glossy paper.² These inks are 100% carbon. Although we have no independent tests of these MIS carbon pigments, high quality 100% carbon pigments consistently test well – far superior to color pigments – and these pigments have been as stable as I expect carbon to be in my personal fade tests. I continue to recommend 100% carbon for the most stable images.

Note that the previous version of this PDF was made for the Golden Trout Photo Workshop in 2010. Those who were at the workshop can contact me for a copy.

B. Print Tone Range

The print tones are graphically shown below based on their relative Lab B measurements. Lab B is the primary visual variable in B&W.



Premier Art Smooth Bright White paper appears to be the most neutral printing paper with 100% carbon (Ebony/Carbon-6) inks with 3.5 picoliter printers, like the K3 types. It does, however, have optical brightening agents (OBAs) in it. These dyes will fade, causing the paper be warm.

Epson Hot Press Natural, a new paper this year, is the most neutral non-brightened paper I've used. It has such a low paper-to-maximum Lab B range that it looks quite neutral. In 1.5 picoliter printers like the Epson 1400, the black only profile will make a print that is very neutral. Because of the lack of OBAs, Epson HP Natural appears to set the standard for neutral carbon printing.

² The addition of the MIS PK, LK, and LLK warm carbon and the removal of the dilute HP PK from the 7800 is the main change from 2009. The 2011 Solvang city centennial display prints I'm making for the Elverhoj museum will be the warm carbon on Crane Museo Silver Rag. For combinations of MIS carbon and HP PK neutral glossy inks, see <http://www.paulroark.com/BW-Info/7800-EbHp.pdf> and <http://www.paulroark.com/BW-Info/7800-EbHp.pdf>

Crane Museo Silver Rag is a non-brightened “glossy” paper that looks good with the warm MIS glossy compatible carbon inks, like their LK. Other papers have intermediate degrees of warmth.

B. Current Printer Inksets

1. Epson 1400 (1.5 Picoliter)

For the 1400, I’m currently using standard MIS Eboni-6.³ See <http://www.paulroark.com/BW-Info/Eboni-6.pdf> for a full description of Eboni-6.

In the past I’ve used several different variations of the Eboni-6 inkset on the 1400.⁴

2. Epson 7800

Eboni-based, matte paper only carbon inks:

K = Eboni

LK = 30% Eboni (Eb6-C)

LLK = 9% Eboni (Eb6-LC)

M = 18% Eboni (Eb6-M)

LM = 6% Eboni (Eb6-LM)

Warm carbon & glossy sepia inks:

Y = MIS K4 LLK

LC = MIS K4 LK

C = MIS K4 PK

Enjoy the journey,
www.PaulRoark.com

³ Eboni-6 (Eb6) and Eboni MK inks are ordered from MIS. See <http://www.inksupply.com/eb6.cfm> for bulk inks. For pre-loaded 1400 carts, see <http://www.inksupply.com/product-details.cfm?pn=EB6-1400-SET>.

⁴ See, for example, <http://www.paulroark.com/BW-Info/Eb1400.pdf>