Article: Effects of Enclosure pH on Cyanotypes and Blue Prints (Prussian Blue)

(Abstract)

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The purpose of this experiment was to determine whether the belief that cyanotype prints will be adversely affected by buffered enclosures in long-term storage is truly valid. This belief has been supported by anecdotal reports, experiments with alkalis on Prussian Blue, and experiments with calcium carbonate paste directly on cyanotype prints. The effect is not known to have been established using actual, commercial buffered and non-buffered storage papers (interleave tissues, envelope papers, folder stocks etc.). Contrary to the above, it has been theorized that since calcium carbonate buffering is in a mostly solid form in paper (it has a low solubility and the moisture content of paper is typically very low), it is not likely to be reactive with the cyanotype colorants (or other imaging colorants such as chromogenic dyes or binders such as albumen). In fact, ISO 18902 Imaging materials -- Processed imaging materials -- Albums, framing and storage materials now allows the use of buffered papers for storage of all photographic materials; however, cyanotypes are not discussed specifically. Archival suppliers would prefer to stock only buffered papers as they are more widely used. It is also becoming more difficult for suppliers to find paper mills willing to produce high-quality non-buffered papers. It would also make it easier on institutions if one enclosure paper could be used for most if not all print types. These contradictions between theories, experience, experimental results, and standardized recommendations need to be rectified. In these new experiments papers of varying pH as well as commercial buffered and non-buffered papers were artificially aged in contact with prints created using several historic cyanotype formulations. It was found that some cyanotype formulations were more sensitive to alkaline damage than others, but all were sensitive to both alkaline and neutral papers. Only acidic papers fully protected the images.


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