

OBJECT RESEARCH



Edward Steichen (American, born Luxembourg, 1879–1973)

Clara Steichen with Bowl of Oranges

1907

Autochrome

Alfred Stieglitz Collection

© 2016 The Estate of Edward Steichen/Artists Rights Society (ARS), New York

AIC accession number: 1952.305

Stieglitz Estate number:

Inscriptions: No markings recto or verso

Dimensions: 15.9 x 11.9 cm (image/plate, sight)

Print thickness: N/A

Surface sheen: N/A (N/A GU @ N/A°)

Paper tone: N/A

Mount: Original presentation window mat

Mount tone: N/A

Ultraviolet-induced (UV) visible fluorescence (recto): None

X-ray fluorescence (XRF) spectrometry:

See below

Fourier transform infrared (FTIR) spectrometry:
N/A

TECHNICAL SUMMARY

This photograph is an autochrome. The image is in stable condition, but delamination between the image layer and the thin plate, an inherent vice of autochromes, has started to occur around the edges and at the bottom right corner of the image. Here the color screen and black-and-white emulsion have delaminated in different ways. In some areas the emulsion has been lost, and only the color screen remains. In other areas the screen has been lost, and only the black-and-white silver image is visible. In other small areas and cracks of the image, both layers have been lost. A cover glass plate was added after a stabilization treatment to protect the fragile gelatin layer. After the autochrome was first processed, dust particles became trapped in the protective varnish that the photographer applied to the plate. This autochrome was encased within a two-sided window mat, likely added so the work could be safely viewed and handled for an exhibition. The front brown cardboard mat has been gilded around the window, while the back window is plain and only serves as a support through which transmitted light could pass to view the image. When the surface of the plate is viewed under high magnification, the dyed potato starch particles (red-orange, green, and violet) that make up the screen of the autochrome are visible. When viewed under normal transmitted light conditions, these particles visually merge with the black-and-white silver based emulsion image to create the final color image.

X-RAY FLUORESCENCE (XRF) SPECTROMETRY

XRF spectral readings were taken from the recto of the work and from the mount when available. The elements listed below have been positively identified in the work; elements in bold have been attributed to the processing of the print.

Print: N/A

Mount: Ca, Ti, Cr, Fe, Cu, Zn, Sr, Au, Pb

The graph below shows XRF spectra for three distinct measurement areas on the print: the darkest, maximum-density image area (Dmax, purple); the lightest, minimum-density image area (Dmin, green); and the mount, when available (orange). The background spectrum (gray) represents the characteristic contribution of the instrument itself as measured on a Teflon reference and is included in order to discount irrelevant elements from the print's signature. Elements were identified based on the presence of their characteristic peaks. Analysis was performed with a Bruker/Keymaster Tracer III-V+ energy-dispersive handheld XRF analyzer, equipped with changeable Ti and Al filters and a Rh transmission target. Measurements were taken for 120 or 180 LT at 40 kV and 10 µA. The spectrum below illustrates the significant peaks for this print in the energy range from 4 to 16 keV.

Figure 1. (right)
Locations of XRF measurements

Figure 2. (below)
XRF spectra from the Dmax, Dmin, mount,
and background signal produced by the
analyzer.

