

Application Bulletin

AB-213

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Inspection of Works of Art

The use of long wave ultraviolet light is a valuable aid in the detection of overpainting, repairs and forged signature. Many materials on the face of a painting absorb invisible ultraviolet energy and transforms this energy to visible colored light, easily distinguished by the human eye. It is not reflected, but emitted light. In some cases, it is absorbed without emission, making these areas appear quite dark in contrast to the fluorescent areas. This makes the use of UV light a valuable tool in checking restoration work as it progresses. A chart at the end of this article gives several clues in the detection of altered artwork.

Longwave ultraviolet is approximately 340 to 380nm and is harmless to the eyes and skin of the average healthy human and is often referred to as "Woods Light". It is the most important wavelength in the examination of art and artifacts.

The longwave ultraviolet lamp, used in art conservation, should be a professional quality lamp with most or all visible light filtered out. Blak-Ray® lamps, manufactured by UVP, Inc., are ideal longwave UV lamps for this purpose. They include 110V plug-in units (UVL-21 and UVL-56), portable battery-operated units (ML-49), powerful 100-watt lamps (B-100A), and wide range of UV fixtures for permanent or studio use.

Longwave ultraviolet light is invaluable in viewing artwork before appraisals or to inspect damaged paintings. An alert restorer or framer will find that it pays to examine all artwork for hidden or concealed damage that he might be blamed for at a future date. The slightest erasure or alteration on a graphic or watercolor will stand out with extreme clarity. Many forgers of check and legal documents have been apprehended by the "invisible light".

Protective eyewear (UVC-303) increases the contrast and filters out the "blue haze" interference from ultraviolet light. It fits comfortably over regular eyeglasses.



Appearance under Longwave Ultraviolet	Indicates
Oil Paintings Bluish-white Dark bluish-violet Chartreuse zaze Very small blue dots Dark blotches Bright yellow	Lining compound Picture putty Old varnish Dust Repairs, new signatures, & overpainting Recent touch-up with white lead or naples yellow
Art on Paper Bright areas Smudged areas Very faint writing	New patches of paper Erasures Erased signature
Marble Fresh cut Old marble	Strong purple Mottled white
Jade Fresh carved Old Jade	Intense color Mottled
Ivory Newly carved Old ivory	Purple Yellow tone