

# Just What is the Photographic Activity Test?

By Daniel M. Burge

**T**here are five main threats to photographic images on display: temperature, relative humidity, airborne pollutants, light, and enclosure material contaminants. As framers, you can only suggest levels for heat, moisture, air quality, and light intensity in your customer's home. You can, however, provide chemically inert framing materials.

The Photographic Activity Test (or PAT) is currently the only method available for predicting reactions (photographic activity) between display materials and photographs over the long term. In the simplest terms, it answers that most important question, "Will this material fade or stain my photographs?"

In display applications, the "display materials" consist of any part of the framing package. However, those materials which come into intimate contact with the photograph (i.e., the mat board, photo corners, etc.) will have the greatest potential for harming the print.

The PAT uses strips of special photographic materials called "detectors" to indicate any signs of chemical reactivity on the part of the display material. The detectors are placed in intimate contact with samples of the display materials, and these are artificially aged together in temperature and humidity controlled chambers. If the display material causes high levels of fading or staining on the detectors, then that material can be singled out as harmful to photographs.

Maybe you have been wondering, "What about materials that are advertised as 'acid-free'? Isn't that good enough?" To be blunt about it - not for photographs. While acids in some cases can directly oxidize photographic images, for the most part they simply act as "helpers" to the more hazardous contaminants which can be found in enclosures. There have been cases of neutral and even alkaline enclosure materials causing severe damage to



*This antique photograph was ruined by damage caused by a poor quality matboard.*

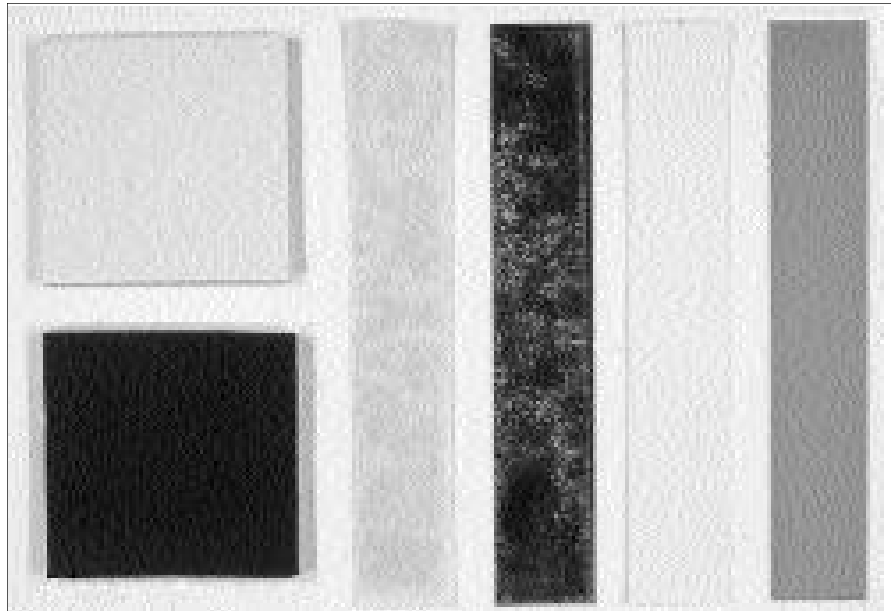
photographs. The problem isn't the alkali, but rather other nasty contaminants which happened to be present in the "acid-free" enclosure. Many such materials are quite good, but not all of them. It is still recommended that all enclosures be acid-

free, but remember that designation is no indication or guarantee of the safety of your customer's photographs.

Another important point is that there is no standard legal definition for the word "archival." [Editor's note: the

Photographic Activity Test (ANSI IT9.16). The standards also include requirements on levels of acidity and buffering.

If framers wish to provide their customers with framing materials safe for pho-



On the left is seen samples of a poor quality yet "acid free" box board. It destroyed the special test "detectors" shown in the center. At the right is seen the "known good" test controls.

FACTS Standard Matboard and Glazing Terminology book defines archival as "Originally meaning 'of or pertaining to archives' the term is now loosely used (as is the term permanent) to refer to a material that can be used without deleterious effects in the conservation or care of important artifacts, or in the production of new items designed to have very good aging properties." The fact is that manufacturers can use the word in their advertising no matter what the quality of their product. However, most manufacturers are dedicated to producing quality products for the storage and display of photographic materials. Some of these manufacturers will even state when a material has been subjected to that PAT.

The PAT is just one of the requirements for archival enclosure/display materials outlined in the two applicable standards of the American National Standards Institute (ANSI): Photographic Processed Films, Plates, and Papers - Filing Enclosures and Storage Containers (ANSI IT9.2) and

tographs, they should use only those materials which have passed the PAT test and which have met all of the other requirements outlined in ANSI Standard IT9.2. If you wish to purchase a copy of either of the ANSI standards mentioned, write to the American National Standards Institute, Department SD, 1430 Broadway, New York, NY 10018. Telephone (212) 642-4900. If you would like a free copy of the Image Permanence Institute's brochure on the PAT test, write to IPI/RIT, 70 Lomb Memorial Drive, Rochester, NY 14623-5604.

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Photographs shown with this article appear courtesy of Daniel M. Burge, IPI/RIT.