

STORAGE and DISPLAY MATERIALS for PHOTOGRAPHS: CRITERIA for SELECTION

The 2 International Standards

ISO 18902:2013 [E]

Imaging materials--Processed imaging materials--Albums, framing and storage materials

This international standard specifies chemical and physical requirements for all storage and display materials that are in direct or close contact with the following traditional and digital hardcopy photographs*: black-and-white or color reflection prints or negatives, made with silver-halide, chromogenic, silver dye bleach, inkjet, electrophotographic, or dye diffusion thermal transfer processes. Long-term contact with materials that do not meet the standard may create or exacerbate deterioration in photographs.

Storage and display materials include, but are not limited to, sleeves, envelopes, folders, mat board, boxes, interleaving, frames, and albums. Aspects of additional materials that are commonly used on or near photographs, such as adhesives and labeling supplies, are also covered.

*The standard does not mention many 19th century and common photographic processes, the component(s) of which are known to be pH sensitive, including dye transfer, cyanotype, salted paper, albumen, collodion, platinum, and diazotype; this omission implies that buffered storage materials should not be used. Research supports avoiding buffered materials in contact with cyanotypes; alkaline and neutral pH materials have been shown to fade cyanotypes under the conditions of the PAT test. There is anecdotal evidence of contact with buffered housing materials, even under ISO recommended environmental conditions, causing deterioration in some of the photographic processes in this list. However, there is no consensus in the photographic conservation community concerning processes other than cyanotype.

ISO 18916:2007

Imaging Materials--Processed imaging materials--Photographic activity test for enclosure materials

The Photographic Activity Test (PAT) is an accelerated aging test that incubates, at high temperature and humidity, samples of the product in question with the basic components of photographs. Change in the detectors indicates that the product might degrade photographic materials stored in direct or close contact with it.

You should select products the manufacturer has tested with the PAT. Materials that pass the PAT do not automatically meet the criteria in the first ISO standard; however, *you can usually assume that a product is safe to use based on this test* along with a general knowledge of the ISO standards.

ISO Specifications

General Qualities

- Chemically and physically inert with respect to the photographic materials
- Passes the PAT test
- Additional and specific criteria that apply to adhesives, labeling, and framing materials are not included in this document.

Additional Criteria for PAPER PRODUCTS

- Acid-free = pH of 5.5* to 10 [*pH of the reference water used in testing]
- Buffered = 2% alkaline reserve
- Lignin-free = KAPPA of 7 or less
- No post-consumer recycled material
- Colorants are non-bleeding
- Sizing chemicals must be neutral or alkaline
- No rubber-based adhesives
- Album bindings need not pass the PAT or meet all criteria if not in direct contact with photographs
- Balanced seam construction for envelopes, with seams narrow and wrinkle-free

Additional Criteria for PLASTIC PRODUCTS

- No plasticizers
- No cellulose nitrate, cellulose acetate, PVC (polyvinyl chloride), or plasticized plastics
- Polyester [poly(ethylene terephthalate)], polypropylene, polyethylene, polystyrene and spun-bonded polyolefins are generally suitable

PAPER vs. PLASTIC

Advantages and Disadvantages to PAPER

- Opaque = decreases light exposure but may lead to more handling
- Easy to label with a soft pencil
- Porous, breathable, absorptive = preferred for cellulosic films
- Less expensive than most plastics

Advantages and Disadvantages to PLASTIC

- Visibility reduces handling
- More durable than paper
- More rigid plastics provide additional support for weak/brittle objects
- Non-porous = prevents cross contamination with poor quality materials, such as sticky tapes
- Electrostatic charge = keeps thin or light objects from shifting but attracts dust or can lead to abrasion, or lift flaking or friable media