

Preservation and Care of Philatelic Materials

Subsidiary Page 2

Composition of the Postage Stamp and Factors Involved in the Removal of Stamps from Paper

A postage stamp is commonly composed of several layers including the adhesive, the fibrous paper, a coating on the printed side, the printing ink itself, and frequently a phosphorescent tagging overlay. A cancelled stamp off cover or paper, of course, may also have all or a portion of the cancellation on the stamp as well. A further element which can sometimes be a factor is the proximity of the stamp to (or even over) ink used for writing on the cover or paper from which the stamp was removed. All of these elements can dramatically impact the preservation of the stamp.

The fibrous nature of paper can be easily seen upon an examination of backlit papyrus, **Figure 3**.

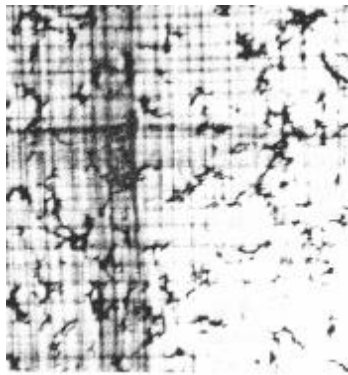


Figure 3. Backlit papyrus showing fibre pattern.

Very commonly, the paper used to manufacture a stamp is highly acidic. When a stamp is mounted on an alkaline album page, the acid of the stamp may migrate from the stamp itself to the album page. This migration is affected by such factors as humidity, type of mount used, and composition of the tagging material, if present on the stamp. If the album page is acidic to begin with, acid from the album page may migrate into the stamp and can contribute to the deterioration of the stamp.

Many types of alkaline album pages are buffered, a compositional characteristic which results in the maintenance of the album page's alkalinity. The latter contributes to reduction, often elimination, of the acidic degradation of the stamp. Papers of this characteristic are being offered by more and more paper mills, and the papers are referred to as non-acidic, alkaline-buffered, and acid-free.

There are three common ways of making paper chemically: the sulphate, the sulphite, and the soda methods. Kraft paper is made using the sulphate process; writing and printing paper are made by the sulphite method; and papers for fine books and journals are manufactured by the soda process.

The term "kraft" means strong. The manufacturing process uses caustic soda in combination with sodium sulphate to make a strong, brown wrapping type of paper from wood pulp. The first sulphate pulp made in North America was at the Brompton Pulp and Paper Company in East Angus, Quebec, in 1907.

Collectors who soak stamps off paper will notice that stamps on kraft paper made in the U. S. readily separate from the paper without problem provided the soaking process is kept to an absolute minimum. Stamps on kraft paper manufactured in Canada, however, require exceptionally careful soaking so as to avoid a bleeding of the sodium sulphate from the kraft paper into the stamp. This bleeding results in there being a reddish color on the back of the stamp.

The bleeding or absence of it during the soaking process is due to the fact that U. S. kraft papers generally have a hard coated surface, while Canadian kraft papers commonly have an uncoated soft surface.

When soaking stamps off of paper, be certain that the water is tepid and not hot. Furthermore, check the soaking stamps frequently. Remove and wash the separated stamp in clear water as soon as possible. Dorfman (1999) points out a) that cold water should be used when soaking the small Machin heads of Great Britain, b) only a few stamps should be soaked at a time, and c) the amount of time for the soaking should be the least possible. Those precautions are warranted since the water can affect the phosphor bands on the stamps. In certain instances -- see below in the section dealing with inks -- additives to the water used for soaking stamps may be warranted.

Two general precautions concerning soaking stamps warrant mentioning here. First, be extremely careful when soaking stamps off of colored papers, particularly the red and green papers used for envelopes for greeting cards at Christmas time. Stamps on such colored papers should be soaked separately and with care as the colors of the envelopes commonly run and can taint other papers in the water.

With regard to soaking stamps off of colored papers, Heiss (1999) has recently reported that he has had good success removing stamps from red papers by soaking the items in water to which table salt has been added. He recommends one tablespoon of table salt per one third cup of water, and suggests that collectors experiment with the method to determine the optimum salt concentration to be used.

Barlie (1999) has reported a technique which she has found useful for the removal of stamps from colored paper. She places a bowl in a sink and fills the bowl to the brim with warm water. She next places the stamp on paper in the water and adjusts the dripping water flowing into the bowl so that the water is flowing over the brim of the bowl but slowly enough that the stamp won't be washed over the edge of the bowl. She finds that this method causes the dye released

from the paper to be washed over the brim of the bowl before the dye has a chance to soak into the stamp.

Another method described by Politis (1999) involves an initial soaking of the stamp on paper in hot water, following which he peels the stamp off the paper as soon as the gum is soft enough to allow the stamp to be safely removed from the paper. He finds that, in most cases, the colored paper won't have started to run when the gum becomes soft enough to remove the stamp. Then, the gum remaining on the stamp can be soaked off in the usual manner.

A second general precaution regarding soaking stamps is to use the type of stamp tongs having broad tips. These spade tip type of tongs facilitate secure holding of the wet stamp without the risk of damaging the stamp, which can so easily happen with the sharply pointed tipped stamp tong.

SELF-ADHESIVE STAMPS

The world's first self-adhesive postage stamps were issued in 1964 by Sierra Leone; but the use of pressure-sensitive adhesives on materials other than postage stamps (some state revenue stamps, envelope flaps, etiquette labels, address labels, etc.) was employed long before 1967. The first self-adhesive postage stamps issued by the United States were the 10-cent pre-cancel Dove and Weather Vane Christmas stamps of 1974. It wasn't long before problems with the self-adhesive stamps surfaced. These problems are far from being resolved today, but we have come to know a little about the predicaments attendant on self-adhesive stamps.

How should used self-adhesive stamps be best removed from paper? The answer to that question is of interest with regard not only to used self-adhesives, but also with regard to removal of the self-adhesive from the backing on which unused stamps are found when purchased.

Many collectors have had some success with soaking these self-adhesives in water followed by a gentle rubbing of the back of the loose stamp to remove any traces of the adhesive. It is a valid question as to whether or not this will remove all of the adhesive. The latter could be best achieved, of course, if we knew the solvent used in the adhesive. The Preservation and Care of Philatelic Materials Committee has asked the United States Postal Service to identify the solvents in the adhesives used on the various self-adhesive stamps issued by the United States Postal Service. The postal authorities responded that their specifications neither tests for nor recommends any particular solvents to remove the adhesive since that is not considered part of the stamp performance requirements specified by USPS. Thus, the committee was unsuccessful in obtaining the solvent information requested, but we are continuing to pursue that information.

As an alternative to the removal of unused self-adhesives from the backing on which it was purchased, Baadke (1997a and 1998) suggests that a single self-adhesive be cut out to give a small surrounding backing border after the adjacent stamps have been removed. This may not appeal to the individual who is concerned with what the effect of the backing and the adhesive will be over time.

Collectors who save complete unused panes of the self-adhesive stamps should pay careful

attention to what, if any, effect the backing paper and/or the adhesive has on the stamps themselves. Any collector who saved the first self-adhesive issued by the United States postal authorities in 1974 will recall how those stamps became seriously damaged in storage.

Lawrence (1999a and 1999b) has produced an in-depth review of the self-adhesive issues. Baadke (1999) reported on the availability of a commercial adhesive remover product called "Un-Du," a solvent which has shown some success in the removal of self-adhesive stamps from paper. Baadke cautions, however, that the primary ingredient in "Un-Du" is heptane, and, accordingly caution in its use is warranted.

A Specific Word of Caution. The hologram stamps issued by the United States during World Stamp Expo 2000 should NOT be soaked. These stamps were issued after those considered by Lawrence (1999a and 1999b), but Baadke (2000b) has reported that soaking the hologram stamps in water for about 30 minutes or more causes the holographic image to separate from the paper backing of the stamp. Baadke received confirmation of this danger directly from the U. S. postal authorities. In addition to the separation mentioned, water causes the holographic image to dull and appear less distinct than unsoaked stamps. Probably the safest way to deal with used holographic stamps is to leave them on the envelopes or packaging on which they originally came. If necessary, carefully and neatly trim around the stamps on a portion of the larger envelope or piece of packaging, leaving a small border of the envelop or original packaging around the stamps.

The popularity of self-adhesive stamps with the public in the United States is such that it is likely that there will be no end of their production. In view of the problems associated with self-adhesive stamps, is it any wonder that some collectors (see for example, Cohen, 1999) have decided to stop collecting self-adhesive stamps altogether, at least for the time being.

At least prior to 1993, the United States Postal Service has never had a paper designed specifically for postage stamps. In part, the reason is that, even though the United States Postal Service produces on the order of 40 billion stamps per year, the paper needed for that production is less than what the *Washington Post* uses in one month. Another reason for the United States Postal Service not having a paper designed specifically for postage stamps is that paper manufacturers offer over two dozen different coated papers satisfactory for printing stamps.