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book in the returning shipments for any kind of change or damage, and noted them on our quality control checklist. (We compiled the checklist from the knowledge and experience gained by our CIC test runs.)

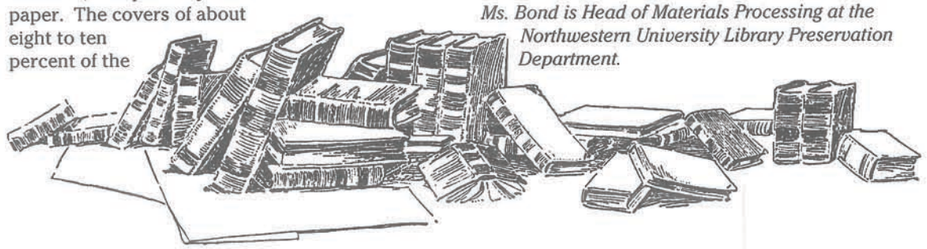
The planning stages of the mass deacidification program were time consuming. In looking over my notes of the past year, it appears that there were hardly any issues which we did *not* discuss at length.

Ten percent of each deacidified shipment was brought to our Conservation Lab where technicians checked the books for pH and completeness of treatment. We also used blank papers for destructive testing, and inserted them in every shipment to test for zinc oxide content.

To date, our findings are as follows. The odor was quite noticeable for the first two shipments but improved dramatically with the next four shipments. The vendor still cannot fully explain the odor, except to say that it is a function of the paper. The covers of about eight to ten percent of the commercially-bound buckram books flaked and had to be rebound. About fifteen percent of the selin call number labels bubbled or had the adhesive loosen, and these were replaced. A chalky residue came off on one's hands when initially working with the returned books, and the text blocks buckled temporarily but straightened out once moisture returned to the paper after a few weeks. Iridescent zinc oxide rings appeared on about ten percent of the books, but these showed up most often on the pamphlet binders rather than the text. The rings on the pamphlet binders are strictly cosmetic and do not affect the text block at all.

For the most part, the reactions of staff and users to the project have been positive. The planning for mass deacidification was time consuming, but I believe it was well worth the effort, as it paid off in a smooth start-up. Northwestern University Libraries looks forward to continued success with the mass deacidification program.

Ms. Bond is Head of Materials Processing at the Northwestern University Library Preservation Department.



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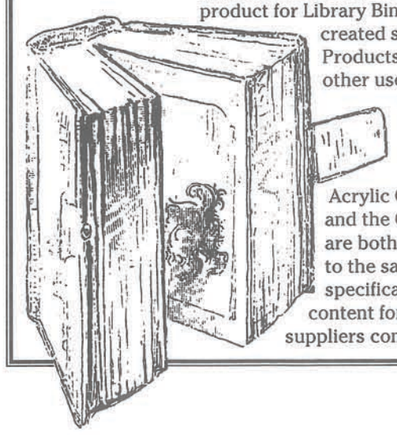
ARCHIVAL PRODUCTS
A Division of Library Binding Service

news

"Archival" Board and Preservation Demands: how we measure up.

One of the most important questions for any kind of preservation project involving binder's or box maker's board is: What exactly are the component parts from which the board is derived, and how are they altered during manufacture? Plenty of mystery surrounds this question, so we researched the board we stock at Archival Products by asking our suppliers some very definitive questions.

Archival Products carries three different kinds of board. *The Grey/White Archival Board* serves primarily as material for phase boxes and other book-storage enclosures. *Dark Tan Archival Board*, with its modified point sizes, has several applications. The 10-point DTAB is file folder stock, and works well for folders, pockets, and other smaller and simpler enclosures. The 40-point and 60-point Dark Tan Board can be used for boxes and enclosure folders. *The High Density Acrylic Coated Pamphlet Board* is an exclusive product for Library Binding Service, and was created specifically for the Archival Products pamphlet binder. Its other uses include three-ring binders, component board for binding, and handmade protective enclosures.



The High Density Acrylic Coated Pamphlet Board and the Grey/White Archival Board are both manufactured according to the same or very similar specifications. To designate pulp content for these two boards, suppliers conduct certain tests. First, both boards are made from virgin fibers and are free of groundwood according to ASTM D1030x5 spot stain tests. To demonstrate the adequacy of bleaching or lignin removal, these two paperboards give a negative reading, and have a kappa number of 5 or less when tested according to the Technical Association of Pulp and Paper, or TAPPI T-236. Both gray boards are manufactured to a pH of 8.0 to 9.0 according to TAPPI T-509, and no sizing of any kind is used in manufacture.

Grey/White and High Density boards both have an added two percent alkaline reserve and an inert, acrylic outer coating. The acrylic coating is intended to help resist water, soiling, and abrasion.

Elements of the Dark Tan Archival Boards are similar to that of the gray boards. The pulp used is a fully bleached, virgin kraft. The pH of the tan boards is set at an 8.5 minimum, and is adjusted using calcium carbonate. This reserve is a bit higher at three percent. No adhesives are used in manufacture, and sizing is neutral and contains no rosins. Archival Product's Dark Tan Archival Boards' are free of metal impurities according to set standards - that is, there is less that 30 parts per million of copper, and one part per million of iron. The three-ply 40-point DTAB is made with a museum quality 20-point alpha cellulose core between two 10-point pieces of folder stock. The four-ply, 60-point board is constructed accordingly, using two 20-point pieces of alpha cellulose core stock.

Beyond questions of pulp, sizing, and metallic impurities, issues such as color, abrasion, and internal stiffness are also important. In terms of

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the gray boards, our suppliers conduct independent tests, but their findings are comparable to desirable results employing TAPPI methods. Friction wheel tests show a total weight loss of less than 2%. Tests for stiffness show at least 1800 Tabor stiffness in the machine direction and 800 in the cross direction. Dyes used do not mix or run, and are fade resistant.

One of the most important questions for any kind of preservation project involving binder's or box maker's board is: What exactly are the component parts from which the board is derived, and how are they altered during manufacture?

Dark Tan Boards use pigments rather than dies. These pigments do not bleed and are color and light fast. Typically, our DTAB suppliers test these items by employing the standard fadeometer test. Our DTAB holds up against the standard abrasion tests with a #CS wheel and 100 wear cycles. Laminating may affect this result, though not markedly.

Each new shipment of Archival Products board is fully inspected for cuts, abrasions, spots, flaws, coating uniformity, and shipping damages. Archival Products stands behind the quality demands for archival board, and any damaged board is promptly replaced. For the Grey/White board, color may vary from shipment to shipment, but the component parts and specifications remain constant.

Other tests are currently being conducted to see how our board stacks up against other marketed board products and experimental boards currently in manufacture process. This result should be available before the summer issue of *Archival Products News.* In the meantime, sample packages of all Archival Products board supplies are available in sizes that are suitable for some in-house testing. Call our toll-free number to request a complimentary package.

Pamphlet Binder Patent Rights Extended to Canada

Canadian Patents and Trademarks officials allowed an Archival Products patent application on September 29, 1992. The patent protects the Archival Products' pamphlet binder. A patent for the binder has been in place in the United States since May 3, 1988, and last year's application extends comparable patent rights and privileges to the Commonwealth of Canada.

Fritz James, President of Library Binding Service and its Archival Products Division, holds the patent title and is named as the product's inventor. The US patent and forthcoming Canadian patent give LBS/Archival Products exclusive rights for "making, using, and selling the invention."

There are four principal elements in the invention that make it unlike any other binder on the market, thus warranting the patent protection. One, no adhesives touch the pamphlet when bound into the binder; two, binding requires little time, effort, and no tools such as heat sealed devices; three, pamphlets can be removed from the binder without damage; and four, all components used in the binders are stable and archivally sound.

Free samples are available and can be requested by calling 1-800-526-5640.

We are interested in your conservation and preservation projects. Archival Products encourages readers to share their thoughts and ideas on any subject affecting the Library Community.

Address articles to:

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Mass Deacidification at Northwestern University Library — *by Elayne Bond*

In June 1992 Northwestern University Library signed a contract with Akzo Chemicals, Incorporated, and officially began the library's new venture into mass deacidification.

An advantage Northwestern had in beginning this new program was that in 1991-92 we had carried out three mass deacidification test runs as part of a Committee for Institutional Cooperation (CIC) project. Coordinating, organizing, creating procedures, and performing quality control for these test runs gave us experience which helped enormously when planning for the real thing.

Some of the first questions the Preservation Department had to answer were: Where do we begin - should we start with a discrete collection? Should we go into the stacks and start from the beginning? Should we send new acquisitions? Should our strategy be subject based? And, should the selectors choose the materials? Drawing on our experience with the three CIC test runs, we decided we should probably avoid materials with photographs or graphic images, coated and/or dense paper, books with mylar covers, newsprint, colored illustrations, and brittle materials (since deacidification does not reverse embrittlement nor does it strengthen paper).

With these physical limitations in mind, we decided to begin with the music collection. Besides being a collection of distinction at Northwestern University Library, the music collection does not have many photographs or coated papers. Music Library staff was enthusiastic about mass deacidification, since the collection does not lend itself well to other means of preservation. For instance, reformatting to microfilm is not a good option for music because musicians must use the actual scores.

Preservation Department staff involved with mass deacidification talked with the Head of the Music Library. They decided to begin with the music stacks then move on to the Music Reference Room, where materials included serials and folios.

The planning stages of the mass deacidification program were time consuming. In looking over my notes of the past year, it appears that there were hardly any issues which we did *not* discuss at length. Contract negotiations and quality control work are two good examples.

Contract negotiations were protracted and detailed, lasting about six months. Akzo provided a basic contract outline, and we spent a lot of time going over the contract point by point with preservation staff, Northwestern's legal counsel, and the Assistant University Librarian for Collection Management.

We also consulted with two Chemistry professors and Northwestern's Office of Research Safety. The sections of the contract that sparked the most discussion were the specifications, the terms, and the limitations of Akzo's liability.

Quality control was of major importance. This was a new activity for the library as well as for the national library community. We checked each

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