
QUALITY DFA BINDINGS...

A SHARED RESPONSIBILITY

By Jack Bendror

This article is being written to express a concern for the future of Double-Fan Adhesive (DFA) binding as a way for producing durable library binding products. A historical review of the factors that led DFA bindings to become the dominant method for leaf attachment will explain the reasons for my concern.

In 1920, the Oversewing Machine was introduced to library binders in North America. Around the same time the Lumbeck Double-Fan Adhesive binding process was put into commercial use in Europe. Oversewing became the cornerstone of an industry that began to flourish and for more than 60 years was the dominant method for leaf attachment in North America.

The proliferation in libraries of photocopying machines, coupled with escalating paper costs that forced publishers to cut binding margins, exacerbated the limitations of oversewing. It is an indisputable fact that oversewing is the most durable method of leaf attachment with unmatched page-pull and page-flex attributes. However, its openability characteristics, acceptable in terms of readability, were not ideal for photocopying. By the early 1980s, North American librarians made it clear to binders that they were willing to sacrifice some durability for improved openability.

In the early 1960s, the Milwaukee Public Library and later the Boston Public Library began to experiment with the Lumbeck DFA binding process mechanized by Hans Ehlermann, Lumbeck's son-in-law. Tuned in to the market needs,

Mekatronics introduced in the late 1960s the Ehlermann equipment to library binders in North America and its use gradually increased.

When installing a DFA binding machine, I personally make sure that the binder understands the limitations of DFA binding as compared to oversewing which is a very forgiving process. In particular, I emphasize the importance of material related characteristics such as glossy, coated or heavily calendered papers that establish the limits that cannot be exceeded without loss of binding quality. Not every book is a good candidate for DFA binding. Furthermore, spine preparation and proper selection of adhesives are critical to the success of DFA binding. Most binders followed these warnings. Others who began to DFA bind their products without integrating these warnings into their process soon discovered that inappropriate DFA bound volumes did not withstand library use.

In the mid 1980s, full-scale commercial use of DFA bindings became the norm. Because some binders began to use the process without adequate consideration of its limitations, and because librarians specified 100% DFA for their binding shipments, many inappropriate items were adhesive bound and failure occurred. This caused some librarians to believe that DFA binding was unacceptable for heavily used library collections.

On one hand we see that the DFA binding process has become the dominant method for leaf attachment. Where librarians and binders have exercised rational decision-making in the application of the technology,

DFA bindings have become a complete success. On the other hand, we see the potential for misuse when the technology is not being properly applied. This becomes a matter of concern to us as the manufacturer of DFA binding equipment.

A special trip to Europe to study more closely how binders there applied the process resulted in our introduction of the MEKANOTCH™ Spine Notching Machine. An article by Professor Werner Rebsamen in the April 1984 issue of *The New Library Scene* entitled "MEKANOTCH™" An adhesive binding method with a future, if..." emphasized the importance of notching.

From a supplier's perspective, it was not easy to introduce the MEKANOTCH™ which I considered essential for making the process more forgiving. Why would a binder make a capital investment in equipment that introduces an additional step to the binding process with the resultant increase in unit costs? In 1986, the 8th Edition of the *Library Binding Institute Standard for Library Binding* was published in which DFA binding was included as one of the choices for leaf attachment. That same year, Mekatronics placed an advertisement in the August issue of *The New Library Scene* entitled "Adhesive Bindings..... Unconditionally Guaranteed." It highlighted the importance of notching and articulated again the essential ingredients that, when properly applied, would make the DFA binding process produce a durable product. This educational campaign brought with it favorable results. Librarians began to request that notching be incorporated in the process and binders responded

accordingly with a remarkable improvement in the quality of the end product.

There are some binders who do not notch their DFA bound products and do not agree that notching enhances DFA binding. Also, they do not give the adhesive the serious consideration that it deserves considering the major role it plays. The failed bindings that such practices have produced have made some librarians believe that DFA binding is an inferior process. They demand that their bindings be oversewn to ensure that bindings do not fail. In light of this information and concern that not all binders understand this technology, the article, "Can Oversewing Make a Comeback?," was published in the June 1992 issue of *The New Library Scene*. Similarly, another article, "Why Notch?" was written in 1994 and circulated among our customers. Like previous articles on the subject, it alerted binders to the essential requisites for producing durable DFA bindings.

At the recent American Library Association (ALA) Annual Meeting in San Francisco, I learned that a librarian had requested that their bindings should not be bound on the ULTRABIND™ — a fully automated double-fan adhesive binding machine developed in 1991. The primary reason being that "*pages were falling out.*" Sitting in on several of the meetings, I could not help but notice the degree of skepticism expressed by some librarians regarding the merits of DFA bindings. I must confess that this did not come as a surprise. While the machine may have reduced operational skills, like any other DFA binding machine, it did not eliminate the need to maintain original proper factory settings, proper glue levels in all three glue pots, and the need to purchase specially formulated PVA adhesives necessary to achieve quality DFA bindings. It did not relieve librarians and binders alike from scrutinizing the type of material

that should or should not be put through the machine.

The introduction of the ULTRABIND™ in 1991 heralded the beginning of a new era in library binding in which it began the move from a traditional craft-oriented industry into one of a modern manufacturing operation. The ULTRABIND™ is the most sophisticated piece of equipment in a bindery today and like any tool, must be maintained and used correctly. It was a blessing for an industry that is constantly striving to automate and yet produce a quality product at an affordable cost. However, it may have introduced some new challenges for management who more than ever must exercise proper judgment as to when and when not to use the DFA binding process. Most binders apply the technology correctly and take great care to do the job right. The few who fail to observe the following basic rules and the librarians who demand that extra thick volumes be DFA bound may compromise the bindings:

- Avoid processing difficult materials. Not all volumes are suitable for the process. Volumes over 2 inches thick or with stiff coated paper can be at risk.
- Make certain that pre-milled book blocks or loose pages receive a second minimum milling so as not to be dependent on *perfect* jogging.
- Make certain that the joints of previously rounded and backed volumes are flattened so as to render a square back.
- Process book blocks only within the range of the machine as recommended by the manufacturer.
- Notches should not be exceedingly deep (approx. 3/32 inch is ideal) and care must be given to ensure that they are filled fully.
- Factory settings must be kept in accordance with the recommendations in the manual.
- Proper glue levels must be maintained. Insufficient glue,

especially at the gluing and notch-filling stations, will yield inferior results.

- Only specially formulated internally plasticized PVA's should be used.

Over the years Mekatronics has given information on the proper use of the DFA binding method. Therefore, one can say that scrupulous adherence to the above rules would suffice. If so, why are some librarians skeptical about these products?

At the risk of not appearing to overreact, I am concerned that unless some action is taken, the pendulum might swing too much over to one side. I do not believe that the problem is entirely the binder's fault since he or she must respond to the customer's needs. However, prudent decisions must be made. It is a well accepted fact that heavy volumes, over 2 — 2-1/4 inches with highly glossy coated papers should not be DFA bound nor should volumes with extremely stiff and thick paper such as plates in architectural books. Yet, binders must comply with the wishes of their customers and we, as manufacturers must in turn respond to the needs of the market by supplying equipment such as the MEKABIND™, capable of binding volumes 3-1/2 inches in bulk. Whether the industry continues to do so is a decision that must be shared by both librarians and binders.

We have extensive experience on the subject of DFA binding and what it takes to make it the success that our European counterparts have had for over 70 years. Individually, every binder has acquired application knowledge, but collectively we can all benefit from each other's experiences. It is a good process when applied correctly and selection has been carefully considered. Therefore, we must work together to carefully examine experiences with DFA bound products.

BIOGRAPHY

Author Jack Bendror, President of Mekatronics, Inc./Bendror International, Ltd. and an Associate Member of the Library Binding Institute, holds Bachelor's and Master's degrees in Mechanical Engineering. He has devoted a career of over 45 years to designing and manufacturing machinery for the library binding industry. His efforts at automating, what were formerly hand operations to improve the quality of library bound books and the productivity of library binders, have resulted in pioneering many automation breakthroughs. Among them, the self-adjusting Rounder & Backer, Hydropress Building-In Machine, MD-17 (computerized book measuring unit), RB-7 and GEM™ (computerized cover lettering systems), ABLE™ (Advanced Bindery Library Exchange), a hardware/software product that provides both the bindery and the library with means of communicating binding/rebinding information more quickly and accurately. His most recent accomplishments are the ULTRABIND™, self-adjusting in-line adhesive binding machine and the MEK-A-CASE™, self-adjusting case-making machine. He and his wife, Gloria, have a daughter, Deborah-Joy, and a son, Steven-Abraham.