

Alternative Fabric Supports for the Dacron Lining Technique for Paper Objects

ABSTRACT

The Dacron technique for lining paper objects was described in the conservation literature in the first volume of the *Book and Paper Group Annual*. Dacron lining is one of a number of methods used to line paper objects and dry them under tension. An advantage of Dacron lining is its suitability for large paper objects such as wall maps. The size limitations depend on the dimensions of the Dacron available and that of the table/rigid support. The method can be used where extra care is needed to keep tear edges aligned. It works well when lining an artifact with losses where uneven pressure during drying can be problematic. Artifacts lined in this way become particularly flat; therefore this must be the desired effect.

In the past few years, it has been noted that the Dacron that is offered in supply catalogs differs from the original product used when this technique was first described. The original Dacron had a smooth surface that readily released from the Japanese paper lining once drying was complete. The new Dacron has more tooth and can cause damage to the lining paper during release. For this research project, the efficacy of different fabrics was tested in order to find an alternative to the original Dacron. A summary of the technique, its advantages and disadvantages are presented. A survey of paper conservators and textile suppliers determined which fabrics to test. Examination and testing included adherence to the rigid support and lining paper and subsequent ease of release from the lining paper. Finding an alternative fabric will ensure that this valuable lining method does not disappear from the conservator's repertoire of techniques.

INTRODUCTION

The Dacron lining technique had been successfully used by the authors on numerous occasions, primarily in

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the lining of oversize maps. However, attempts to use this technique with the new version of Dacron were found to be unsuccessful. The lining paper stuck too firmly to the Dacron such that removal proved potentially dangerous to the object being lined. Alternative fabric sources for this useful technique were investigated. Literature and internet searches were done to investigate the technique and variations. The technique was first described by Gary Albright and T.K. McClintock in the *Book and Paper Group Annual*, 1982. It was then listed as a possible lining technique in the *Paper Conservation Catalog*, Chapter 29. A few discussions on the Conservation DistList mention the difficulties in finding the "Original" Dacron. Suggestions for alternatives included using the "New" Dacron with a Hollytex intermediary or using a filament polyester taffeta.

Seven fabrics were chosen to test the Dacron lining method. The qualities needed to replicate the "Original" Dacron were as follows:

- good adherence to the rigid support to retain tension while drying
- good adherence to the lining paper
- easy removal of lining paper from fabric
- upon removal, fabric should not impart a texture/pattern to the lining paper

Two samples of the "Original" Dacron that had been used successfully for many years were used as the controls. The newer version of Dacron, purchased through Testfabrics, Inc. was tested alone and with the use of Hollytex as an intermediary layer between the "New" Dacron and the lining paper. Three additional fabrics were chosen from the Testfabrics, Inc. catalogue that had similar characteristics to the "Original" Dacron, Filament Polyester Oxford Weave (Style 749), Polyester Taffeta (Style 738) and Baumann Unilargo 100% Polyester plain weave.

Two different Japanese papers were used for the linings, Hiromi Sekishu R-014 Extra thin and Paper Nao RK-27. The two papers were chosen to replicate a lining of a small



TOP TO BOTTOM, LEFT TO RIGHT

Fig. 1. Paste applied to a sanded piece of Plexiglas

Fig. 2. Paste applied to the surface of the fabric

Fig. 3. Wet lining paper, on Mylar support, placed onto fabric

Fig. 4. Paste applied to lining paper

Fig. 5. Wet/damp object, on Mylar support, placed onto lining paper

Fig. 6. Mylar rolled off surface of object

Fig. 7. Completed lining left to dry

paper artifact and an oversized artifact, respectively. Four poster-weight papers were cut to 50 x 34 cm pieces to be lined. Linings were all done on sanded Plexiglas boards using Aytex-P wheat starch paste. The fabrics were tested twice with each Japanese paper. The most successful fabrics were tested a third time.

THE DACRON LINING PROCESS

Below is a brief description of the technique as it was performed for this test. The method was based on that described in the *Paper Conservation Catalog*, Chapter 29.

Materials:

- Heavy Plexiglas sheet (sanded)
- Japanese paste brush
- Japanese smoothing brush and/or roller
- “Dacron” or an alternative release fabric, dampened and rung out
- Japanese paper
- Wheat starch paste. The paste is usually thinned to a consistency similar to whole milk. A loaded brush should glide easily over the fabric and Japanese paper.

1. Spray out the artifact to be lined and apply it face down to a Mylar sheet then set it aside. Alternatively, place the artifact in a water bath and remove on a Mylar sheet.
2. Using the Japanese brush, apply an even layer of paste to the Plexiglas (fig. 1).
3. Spread the Dacron sheet out over the paste layer. Smooth out wrinkles with a smoothing brush.
4. Apply an even layer of paste to the Dacron (fig. 2).
5. Apply the Japanese paper to the Dacron surface. One edge of the Japanese paper is placed in contact with the Dacron surface. The remainder is held by one person and incrementally lowered to the Dacron surface while another person smoothes the paper down with a smoothing brush (fig. 3).
6. Paste out the Japanese paper (fig. 4).
7. Apply the artifact to the Japanese paper. Apply one edge of the Mylar support first and lower the artifact down, smoothing it into place through the Mylar (fig. 5).
8. Roll back and remove the Mylar (fig. 6).
9. Allow the artifact and lining to dry (fig. 7).
10. When dry, release the Dacron using a large spatula.
11. Release the Japanese paper from the Dacron in a similar manner. Release all edges first, then the body of the lined artifact. The Dacron can also be carefully pulled away from the Japanese paper lining once the edges have been released.



Fig. 8. Removal difficulty and skinning using “Original” Dacron pink



Fig. 9. Release of Japanese paper from Baumann fabric

RESULTS AND CONCLUSION

The fabrics tested varied in their efficacy as lining supports. They varied in terms of adherence during drying and release after drying was complete.

Adherence

While all of the fabrics adhered well to the Plexiglas drying board, some did not adhere well to the Japanese lining papers. The Baumann fabric, for example, did not adhere to the Japanese paper (fig. 8). The lined item released from the Baumann fabric and became severely cockled. Such a lining could potentially cause serious damage to an artifact. The Polyester Taffeta adhered well to the heavier, RK 27 lining paper, but the thinner Sekishu released and cockled slightly.

Release

Some fabrics could not be safely removed from the lining paper. When the fabric was separated from the Japanese paper, using a large Teflon spatula, the paper was severely skinned. The “New” Dacron, as well as the “Original” Dacron, pink, behaved in this way (fig. 9).

Recommended Fabrics

Three fabrics performed well both in terms of adherence and release. They adhered well to the Plexiglas board during drying but released with careful use of the Teflon spatula. These fabrics can be recommended for use. The second and third fabrics listed can be purchased from Testfabrics, Inc.

- “Original” Dacron, white—This fabric is no longer available for purchase or is difficult to find.
- “New” Dacron with Hollytex—Please note that without the Hollytex, this fabric actually *damaged* the Japanese lining paper.
- Polyester Oxford Weave

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FABRICS SOURCE

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