**Quarter Leather, Tight Joint**
The tight or flush joint is part of a structure suitable for the rebinding of older materials (at C.U. used on materials published before 1850). When leather rather than buckram is used, it is usually because of the large size of the book or the need to mould the covering material around the primary structure (raised cords or thongs). In some cases, particularly for materials of a valuable nature, leather is sometimes used as an aesthetic device.

The techniques described here also apply generally to half and full leather bindings, but at C.U. quarter leather tends to be used for reasons of economy.

**Endsheets**
There are three types of endsheets generally used at C.U.: the double-folio; the reinforced double folio; the cloth or linen joint.

The double-folio endsheet consists of the normal double-folio structure used for all sewn cloth bindings. This endsheet is simply added to the book as an additional section, sewn around the cords in the case of a sewn book, or sewn through the linen back lining in the case of a book which has the original sewing preserved.

When the original sewing is to be preserved, it is usually the practice to lightly overcast a single leaf at front and back (see Manual Guide 26), and to line the back between the original cords with strips of thin, unbleached linen (see Figure 1). It is through this linen reinforcement that the endsheet structure is sewn, tipping down the usual japanese tissue inner hinge on top of the overcasting. This form of endsheet would normally be used on smaller books.

![Figure 1](image)
The reinforced or concealed linen joint, double-folio is similar to the endsheet just described, except that a loose fine linen strip of about 5 centimeters is narrowly tipped around the endsheet before sewing. When the endsheets are pasted down at the conclusion of binding, the linen is first pasted down open, and then the endsheet paste-down is pasted on top, creating an inner reinforcement. This may be used on books which are sewn, and on books where the original sewing is saved. This endsheet would normally be used on small to medium sized books. (See Figure 2).

![Figure 2. Reinforced or "concealed" endsheet](image)

The cloth jointed endsheet is similar to the construction noted above, except that a stout piece of starch-filled buckram is used instead of the linen, and the cloth is designed "to show". The buckram or linen strip is carefully frayed and tipped around the double folio on a very narrow edge. The endsheet is sewn into position, and a waste sheet tipped onto the buckram to keep the fly leaf clean (see Figure 3). At the conclusion of binding, the waste sheet is cut away and the buckram is glued down open, and a separate piece of paste-down paper pasted to the inside of the board. This endsheet would normally be used on large, heavy books.

![Figure 3. Cloth-jointed endsheet](image)

Many binders overcast these cloth or linen joints into position, but a C.U., this practice is thought to be potentially damaging because of the hard edge created by the doubling of the linen and cloth.
**Boards**

In the case of a book newly sewn on cords, the boards are simply cut to size and laced into position after the book has been rounded and backed in the customary fashion, ensuring that the boards are slightly bevelled at the upper and lower inside edges.

In the case of a book having original sewing, the boards consist of a thinner outer board (such as Hollinger) and a stout piece of binder's board. The thick boards is bevelled on the inside as already noted, and laid into position flush with the backing shoulder. The board is glued and the linen back strips laid down evenly in position and set firmly with a folder. A layer of adhesive is placed on top of the linen, the thinner board laid on top, and the book pressed (see Figure 4)

![Figure 4](image)

**Cutting the Leather**

While the book is in the press, the leather is cut to size. Generally, the leather should be a thick goatskin of second grade, chosen from the most plentiful color in stock. The leather should be cut to provide a turn-in of about 2 centimeters, and leaving no more than 7 centimeters on each board. In cutting the leather, it is usually best to first cut a scrap paper pattern, lay it on the surface side of the leather in the most advantageous position, and cut to shape. The leather is pared down the two long edges and on the entire turn-in, ensuring that these are not left too thin close to the board edge.

**Headbanding and Lining**

The book is now headbanded with strong linen thread and hemp, ensuring that a bead is formed at every turn and that there are frequent tie-downs. The bulk of the headband should be only fractionally less than the height of the square. In the case of large, heavy books with larger-than-usual squares, a double headband should be used. When the tie-downs have been flattened down with a folder, appropriated acid-free paper back linings are applied, and the tie-down impressions lightly sanded. The extent of the back lining should be based upon the anticipated ability of the bound book to arch when open (see Manual Guide 19, figure 5 for examples). In the case of the book with linen back linings, a cut of about 2 centimeters is made at the top and bottom of each joint in preparation for covering.
Covering
Covering materials and tools should be assembled and consist of: potassium lactate solution and sponge; thick paste; clean bone folder; band nippers; laying press; clean work surface.

The leather is swabbed on both surface and flesh sides with potassium lactate, thoroughly pasted, and lightly folded over to place the two pasted surfaces together. After soaking to allow the leather to absorb the paste, the leather is lightly re-pasted and laid onto the book. After positioning the leather, it is gently rocked into position on the back between the cords with the palm and smoothed onto the boards. The board is then lifted slightly and pushed towards the shoulder, at the same time, the leather on the board is smoothed to eliminate any loose folds, ensuring a flush fit at the joint. The leather is now turned in, either by standing the book on its back and letting the boards drop to the bench (suitable for large books), or by standing the book on its tail, opening out the boards, forcing them away and turning in (a much quicker and more certain method for small to medium-size books). The turn-ins are smoothed, and the book is placed in the laying press. With a clean folder, the leather in the panels is gently smoothed down before the raised cords are lightly nipped. The nipping is designed to assist the leather to adhere in the panels and to the cords, so it is not necessary to squeeze the cords excessively.

The book is removed from the press, and the front board opened fully. A straight edge or pressing board is laid flush with the shoulder, and the inner edge of the board pushed against it until it is perfectly aligned. The leather at the turn-in should be lightly smoothed while the board is in this position. This is repeated on the back board.

A small cap is set at the head and tail and a light fence (usually process board) placed at the front and back under each board. This is to prevent the dampness from the turn-in striking through the endsheet. The book is placed under a pressing board and allowed to dry.

When the leather is quite dry (usually after being left overnight), the raw leather edges on the boards are tripped straight, and vellum tips attached. The vellum may be taken from discarded vellum covers or from new pieces. The appropriate paper sides are cut and attached, and the endsheet structure trimmed, pasted down and allowed to dry with the board in the open position.

Finishing
Unless otherwise stated, the finishing should be limited to a single blind line jiggered on either side of the cords, a creased line against the edge of the paper, and basic gold lettering. At the conclusion of finishing, the book should be opened lightly a few sections at a time, in order to ease the linings, and to avoid cracking by violent opening.

*Updated 1983