



IMAGE: IGEDO COMPANY

Tight toplines

The ladies court shoe has long been a classic item of footwear for women. Although the simplest of cuts, combined with a well shaped last and heel, it results in an extremely elegant shoe, which is why it has been popular for so many years. Its simplicity would also make one think it is easy to manufacture and in fact it is, provided certain basic rules are observed in order to make it fit the foot properly and to retain that fit in wear. The key to this lies in having a tight and well cut topline.

Retention on the foot is controlled by two factors: topline length from throat to back seam and the 'clip' of the upper over the back of the heel and side of the foot. Length is determined by the upper pattern and must be exactly right; too long and the shoe will fall off the foot, too short and foot entry will be restricted. The lasts used to produce this style of shoe need to have tighter radius back curves and narrower cones than usual so that the top of the upper grips the heel and sides of the foot.

LASTING STRAINS

It is also essential that the correct length is maintained during manufacture. The topline provides much

of the upper's resistance to lasting strains and, unless strengthened, can stretch, resulting in irregular or badly fitting shoes. Court shoes having a proportionally long topline length are particularly susceptible to this problem and need to be reinforced with a specialist tape to reduce strain and also ensure it is distributed as evenly as possible throughout the entire topline.

It is also subjected to further stress during last slipping. If it is weak or the stress not evenly distributed, there is a risk of splitting even with lasts that shorten in-line length when broken. The reinforcement therefore has to be continuous throughout the whole topline and so must either be caught in

at the backseam or, preferably, overlap at that point so the two ends are locked together by the topline stitching when the lining is attached.

It also inevitably stretches during this operation and, if it does not recover to its original length, the shape of the shoe is again spoilt. This is a common fault with poorly reinforced toplines and leaves them looking 'baggy', adversely affecting sales appeal and providing a poor fit when tried on the foot. If however it recovers too much, excessive toe spring may occur, again spoiling the look of the shoe. Topline tapes therefore need to possess a unique combination of physical properties if they are to perform their function adequately.

TABLE 1

Upper material	Tape thickness	Tape strength	Tape stretch	Tape recovery
Light leathers below 0.8mm	Medium	High	Medium	Medium
Same plus extra reinforcement	Low	Medium	High	High
Light to medium soft leathers	Medium	High	Medium	Medium
Medium leathers 0.8-1.2mm	Medium	High	Low	Low
Heavy leathers over 1.2mm	Medium	High	Low	Low
PUCFs	Low	High	Very low	Very low

TOPLINE TAPES

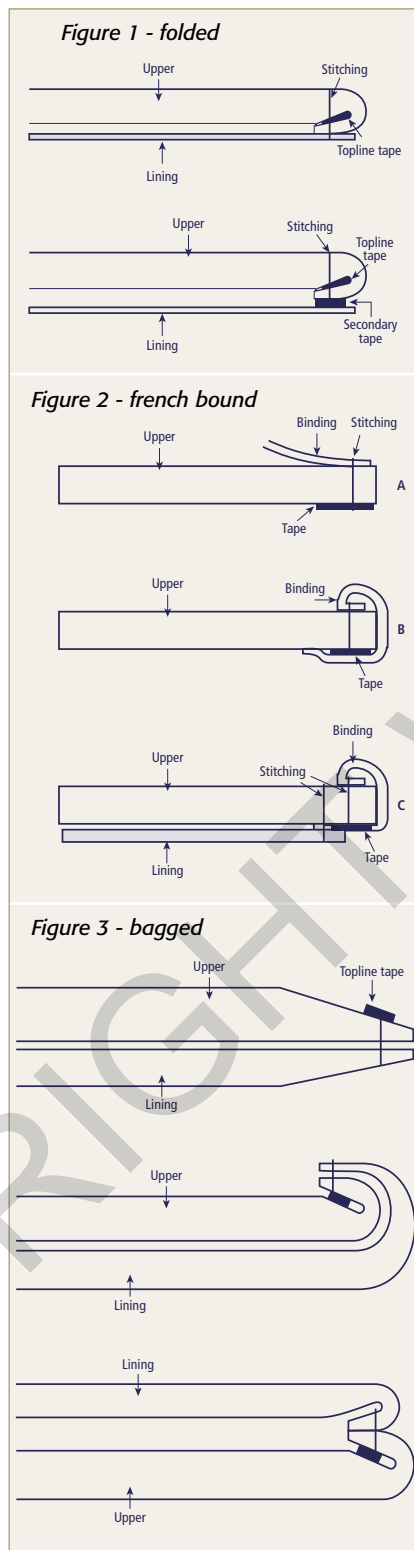
Topline tapes can be applied before or during edge folding. The former is to be preferred for good quality results as with the latter, usually a 1.5-2.0mm nylon or polyester braid, the folding machine can create a certain degree of stretch—especially on soft materials—which the tape then effectively locks in place. The former are woven tapes cut to size from a wide master roll coated on one side with a pressure sensitive adhesive. They are stuck to the reverse side of the topline before edge folding and prevent distortion during folding as well as providing the required reinforcement.

They are also quite unlike conventional woven tapes in that warp and weft threads are different. The warp threads are either spun nylon or polyester to provide strength to control topline stretch and elasticity to return the topline to its original length after stretching. Weft threads take the form of bundles of cotton fibres which are able to slip between the warp threads to be laid in a curve and still lay flat. The tape is thus able to follow the curve of the throat and provide a constant level of reinforcement throughout the whole topline.

The tape is usually applied by hand and, although it involves added labour cost, it has one big advantage over braids fed in by folding machines. Because the tape is stuck down by hand, the operative can vary the tension, with more down the sides to control stretch and less around the throat to prevent creasing. Operatives are soon able to produce remarkably consistent uppers which help to improve both quality and output during lasting.

UPPER MATERIAL

Topline tape is the best type for court shoes, particularly where lightweight materials are involved. They come with a variety of physical properties which, combined with different widths, are able to cope with almost any eventuality. The secret is being able to select the right one. The first consideration is the upper material. Weak, soft or stretchy materials clearly need more reinforcement than stronger ones. *Table 1* offers general guidance on what to look for. The prime rule is to always err on the safe



side as little harm will result from too high a specification. Physical test and measurement values used to determine a tape's suitability are thickness (mm), load at break (N/2.54cm), load at 5% extension (N/2.54cm) and extension at break (%).

TOPLINE CONSTRUCTION

There are three major topline constructions used in ladies court shoes and these are best illustrated through

diagrams. Tape widths will vary with the type of upper and tape strength, but are generally 3-5mm in width.

Folded (Figure 1) – the topline is skived, pre-taped on the reverse side, folded and the lining stitched in. This stitching must pass through the tape to lock it in place as the pressure sensitive adhesive is not strong enough on its own. Likewise, the tape must be overlapped or stitched in at the backseam. A thin nylon tape can be added at the sides on very light materials to add further strength and recovery, and also provide a degree of 'give' in wear.

French bound (Figure 2) – this treatment is most suited to unlined shoes or materials that are hard to fold. The tape is applied to the reverse edge of the upper after backseaming and a thin binding stitched along the outer edge of the topline so that the seam also runs through the tape. The binding is then turned over the edge of the topline and stitched through, either with or without a lining. This produces a very strong and tight topline.

Bagged (Figure 3) – a modification of the folded edge, it is not an easy construction and good quality materials are essential if creases are to be avoided at the throat. Having said that, done well, it looks very clean as no stitching is externally visible. The topline is pre-taped and the lining stitched in as shown. Great care must be taken as regards tension around the throat if creasing is to be avoided and hand taping is the best way of achieving this. The topline is then folded and the lining turned back and stuck down all round.

Topline taping is a frequently underrated operation which requires close attention if problems are to be avoided. All too often cost is the deciding factor and, although this may work for a while, problems invariably arise at some point. Quality conscious factories invariably check new styles or materials by pull testing the complete upper with all reinforcements in place. This quickly shows if any change in tape is needed. Major tape suppliers all carry a wide variety of topline tapes and, with their help, it is possible to fine-tune topline taping to almost any combination of style and upper material. 📌