

Automatic stitching may be used to make large quantities of shoes. The machinery manufacturers have automated this operation for certain types of stitching such as decorative stitching and for simpler assembling. The lines of stitching are programmed into the machines while plates and clamps hold the parts together. An assembly moves under the needle and the result is very regular stitching. The drawback of this technology is its cost.

The operations involved in preparing and stitching or closing are many and time-consuming, taking between 10 and 120 minutes depending on the model and the product range. They are important factors in the price of footwear because they account for approximately 50% of the total time it takes to make a pair of shoes.

> Assembling by stitching the upper to the lining

#### LASTING-BOTTOMING

Now come the different lasting operations which will give the shoe its final shape. When the different parts have been assembled the shoe has a shape with specific characteristics both inside and out. The wearing resistance of the various components is due to several techniques that we will consider in more detail later. Depending on the type of lasting and manufacturing procedure chosen, this may take between 10 and 60 minutes which must be added to the time taken to cut out the parts of the shoe and stitch the seams.



> Upper/last/insole

### > Launch of manufacturing procedure

The assembly room, that used to be known in France

# Types of shoe construction other than cemented

This section gives a brief overview of the main shoemaking processes other than the cement process used all over the world. > Advantages <

This very ancient method gives very supple shoes because no insole is needed.

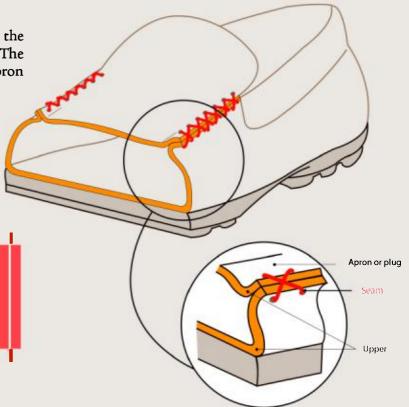
## Moccasin

In this process the entire foot is enveloped and the material under the foot brought up at the sides. The shoe is closed by sewing on a part known as the apron or plug which covers the top of the foot.

The apron may be sewn in a number of different ways: seam, hand-stitching, binding or machine-stitching.

The sole may be cemented, sewn through (Blake sewn) or injected.

NB: a large number of shoe styles that include an apron are incorrectly called "moccasins" even though they are not made like real moccasins. The terms "tubular construction" or "genuine moccasins" always refer to the principle of wrapping the bottom of the foot in a single piece.



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TENNIS SHOE



Low-top sports shoes with flat sole originally intended for playing tennis. The name has been adopted for every type of sports shoes.



Ankle boot designed for children learning to walk. Specially designed to help children who are starting to walk upright, it has reinforced sides, a non-slip sole and a rigid counter.



Sports shoes suitable for practising a variety of sports.



Walking boot with a comfortable textile or leather upper giving good support. The sole is ridged, semi-rigid and shockabsorbent.



Low-cut women's shoe derived from the one-bar shoe featuring a strap between the vamp and the instep strap.



Leather-soled slippers with upward-curling toe. Worn mainly in the Middle-East. Thought to have originated in Persia.