

*KIOT
Leather Engineering*



*Introduction to Leather Product
Manufacturing*

PPT- 4
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Sizing System of Footwear

- ✓ Some one think length of the shoe and length of the foot of the concerned man are actually not correct.
- ✓ The length of the last is always more than the foot length and the shoe length is always more than the length of the last.
- ✓ The feet of individual people have quite different dimensions. To fit these feet, shoes of quite different dimensions have to be produced.
- ✓ A sizing system consists of range of shoe sizes with a given difference in dimension (length and width) between sizes as well as code to identify the size of the shoe.
- ✓ Several sizes are developed to scope up the increasing demand of the various type of feet and also for good and comfortable fitting

Principles of Size and Fit

- ✓ The main features of good and comfortable fitting are the shape of the shoe, which is similar to the foot.
- ✓ Shoes are made in several dimension in length and width but also ball girth, instep girth, heel girth etc. are related to last which shoes are generally made.
- ✓ There is a close relation exists between the dimension of the foot and those of insole of the shoe.

Insole length = foot length + fitting allowance

- ✓ The fitting allowance is needed to prevent the toes of the foot from touching inside from the shoes during walking and also enables the shoe for what greater length of foot without any fitting problem

CONT.

- ✓ Size system can be defined as a method of [a] Measuring [b]Recording and [c] Marking the various lengths of foot, last and the shoe
- ✓ There are five types of size system are being followed by footwear industry
- ✓ America size system which is fundamentally the same with English size with a slight difference in length [$1/12^{\text{th}}$ inch shorter]

Types of Sizing System

1. American Size
2. British Size
3. French or Continental size
4. Japanese Size
5. Euro point System

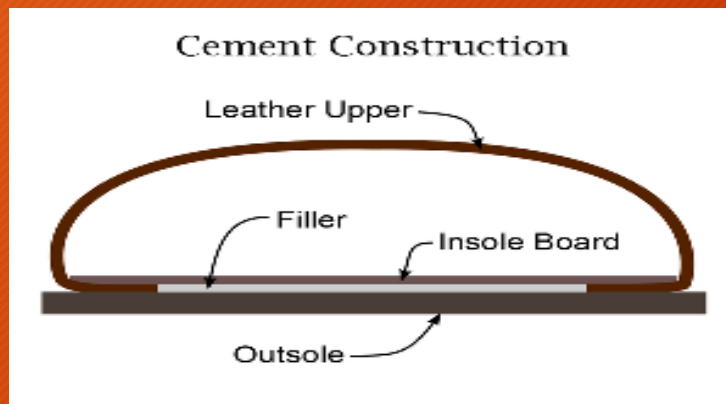
Construction of Footwear

There are different types of footwear construction. These are described as followed; -

- ✓ Cemented construction
- ✓ Goodyear Welted construction
- ✓ Stitch down construction
- ✓ Moccasin construction
- ✓ California construction
- ✓ Direct Injection process (DIP)

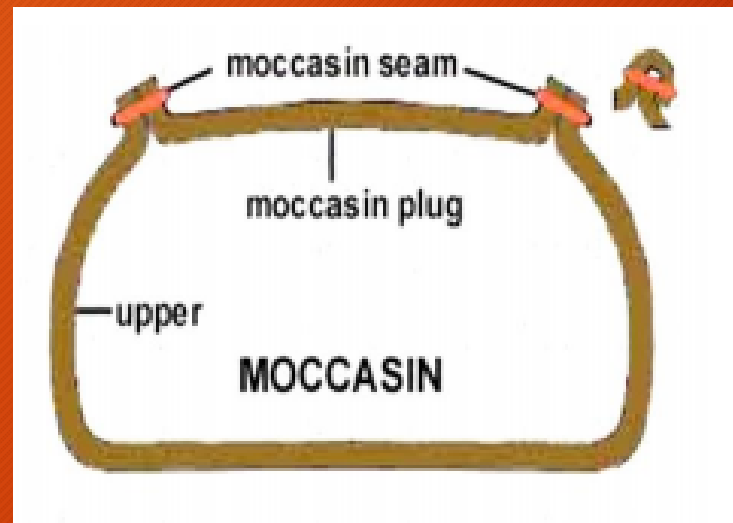
A. Cement lasting /Stuck-on/flat lasting/ Construction

It is a type of construction where Lasted upper is directly attached with the outsole by means of adhesive. Prior to sole attachment, the upper is mounted on the last (Lasting) and the lasting margin is secured with the insole by means of adhesive and/or tacks. Bottom filler is used to fill up the cavity between insole and lasting margin.



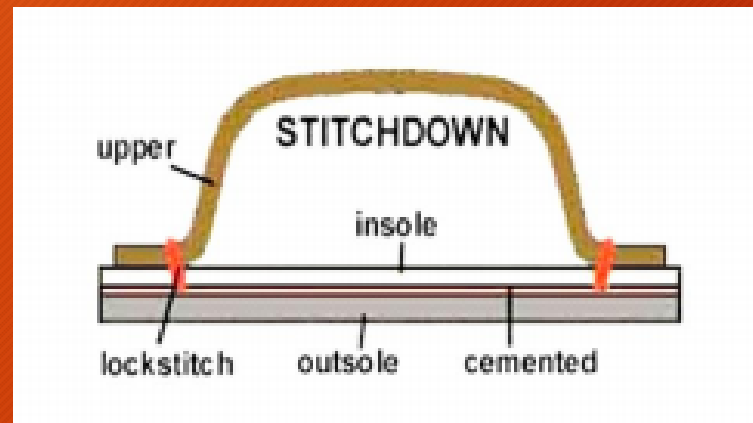
B. Moccasin Construction

It is a type of force lasting (i.e. the upper is forced over the front of the last with the back being pushed into right position) where the moccasin plug stitched before lasting.



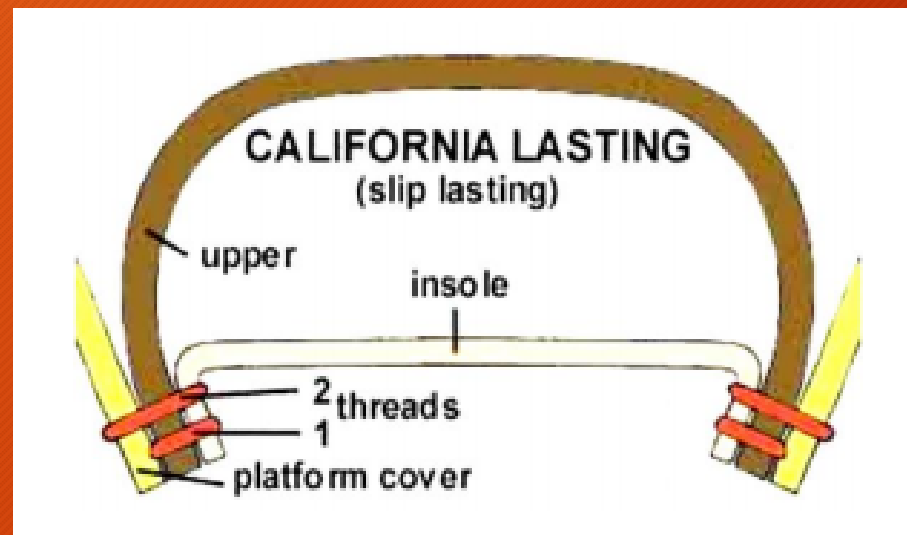
C. Stitch down Constructions

Stitched construction is where functional stitching is used during assembly of upper to the bottom components. Amongst the existing manufacturing processes where stitching plays important role in fastening the upper with any of the components mentioned below is known as stitched construction. These components can be midsole, runner, welt and the outsole.



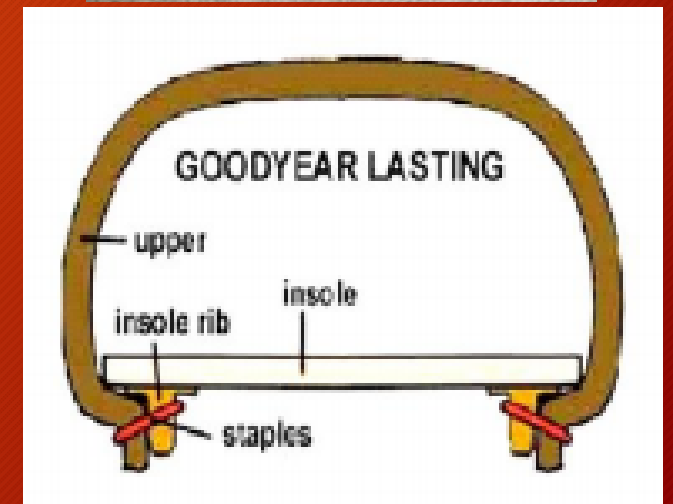
D. California Construction

This construction follows a process of cementing, drying, activation and then finally sole press.



E. Good Year welted construction

It a construction type where the soles are attached to the welt or runner or any other intermediate component which are these already being attached to the lasted upper. For high quality dress and town shoes the top section (or welt) is chain stitched to the upper and insole rib at the point where it curves under the last. This is supplemented by a lockstitch out seam bonding the welt and outsole. The outsole is then sewn to the welt around the edge. Goodyear Welt creates heavier less flexible footwear.



F. Molded constructions

The lasted upper is placed in a mold and the sole formed around it by injecting liquid synthetic soling material (PVC, urethane). Alternatively, the sole may be vulcanized by converting uncured rubber into a stable compound by heat and pressure. When the materials in the molds cool the sole-upper bonding is complete. These methods combine the upper permanently into the sole and such shoes cannot therefore be repaired easily. Molded methods can be used to make most types of footwear.

- 1) Vulcanized sole shoe
- 2) Injection molded sole shoe

