

FOOTWEAR

CONSTRUCTION

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INTRODUCTION

- ✗ Lasting is a term related to the process involved in stretching (in some areas by compressing) the **upper material over the last and securing it**. The upper will conform to the contours of the last and when, the last is removed, upper retains much of the shape.
- ✗ Generally, the lasting department is divided into three sections: **assembly, lasting and bottoming**

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- **ASSEMBLY:** - joining of different component of shoe parts for lasting operations.
- **LASTING:** - is stretching (in some areas by compressing) the upper material over the last and securing it. It includes toe(fore part) lasting, side and seat lasting, heat setting
- **BOTTOMING:-**preparation of the bottom parts of shoe. it includes insole preparation, sole attaching, sole pressing.

SHOE CONSTRUCTION

- ✘ Construction is a method of assembly of the footwear. It is the method of attachment of sole with the upper.
- ✘ There are many ways to attach the sole to the upper but commercially only a few methods are preferred.
- ✘ The different types of footwear construction are described as follows.

**MAIN TYPES OF
SHOE
CONSTRUCTION:**

- 1) Cemented construction
- 2) Stitch down construction
- 3) Moccasin construction
- 4) California construction
- 5) Good year Welted construction
- 6) Strobbel construction
- 7) Molded methods
 - + Vulcanized-DVP (Direct Vulcanized process)
 - + Injection-Moulded-DIP (Direct Injection Process)

CONT...

- ✗ Based on the methods of constructions shoes can be categorized in three groups: 1. Cemented shoes 2. Stitched shoes 3. Moulded shoes
 - ✗ Each group gets its name from the method used to attach the outsole to the rest of the shoe.
1. Cemented shoe include: Tack Lasted, **Cemented Lasted**, Cemented Welt, **Slip-Lasted** and String Lasted
 2. Stitched shoe include: Goodyear Welt, Stitch Down, Moccasin, Mackay Welt, Pre-Welt and Little way
 3. Moulded Shoes include: Vulcanized (DVP) Injection-moulded (DIP)

The types of constructions used will often depend upon what the finished shoe is used for so each will demand different considerations. the methods can be divided into two groups:-

DIRECT ATTACHMENT-

- ✗ It is when the soles are attached directly.
- ✗ Example includes Cemented (Stuck-on) Constructions, Direct Molded Constructions, etc. to the lasted upper.

INDIRECT ATTACHMENT-

- ✗ it is when the soles are attached to the welt or runner or any other intermediate component which are already being attached to the lasted upper.
- ✗ Example includes Good year Welted Construction, Veldtschoen Construction, etc.

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DIRECT ATTACHMENT

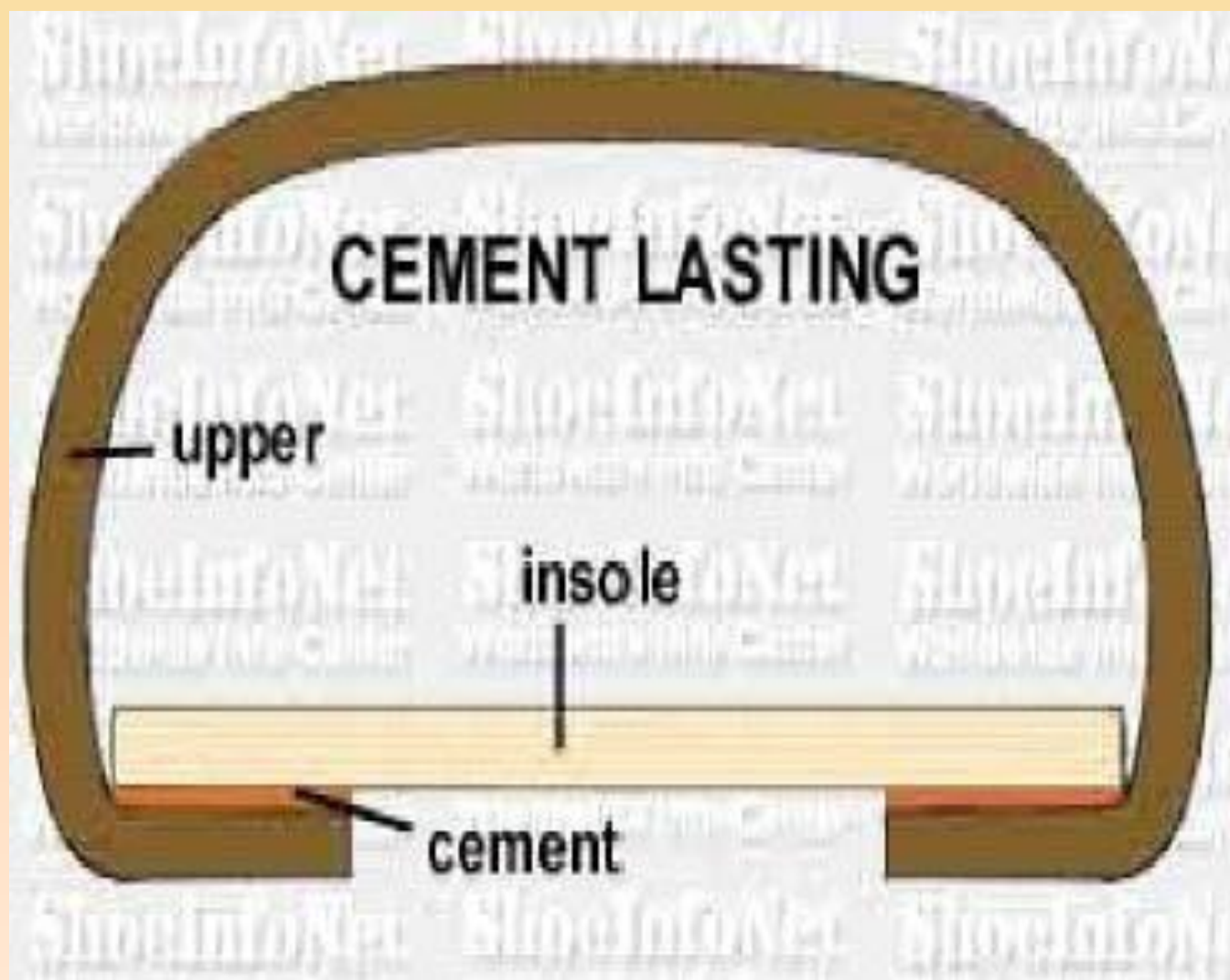


INDIRECT ATTACHMENT



7.1. CEMENT LASTING /FLAT LASTING/STUCK ON CONSTRUCTION

- ✘ In this lasting method, the upper and the upper lining are pulled down, 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.
- ✘ Lasted upper is directly attached with the outsole by means of adhesive.



upper

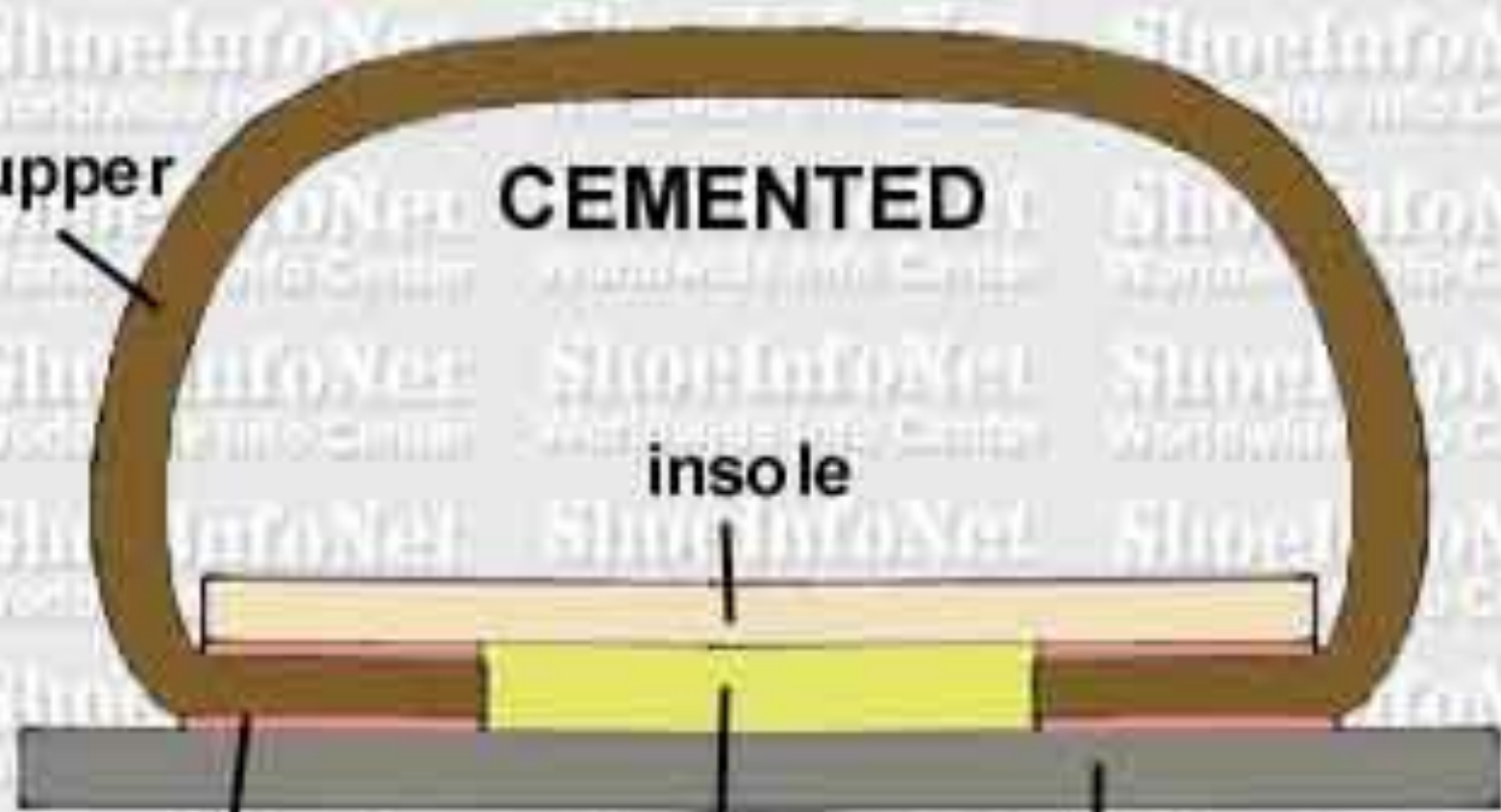
CEMENTED

insole

cemented

filler

outsole



- ✖ The cemented shoe process is the one most widely used in the production of the men's and women's footwear.

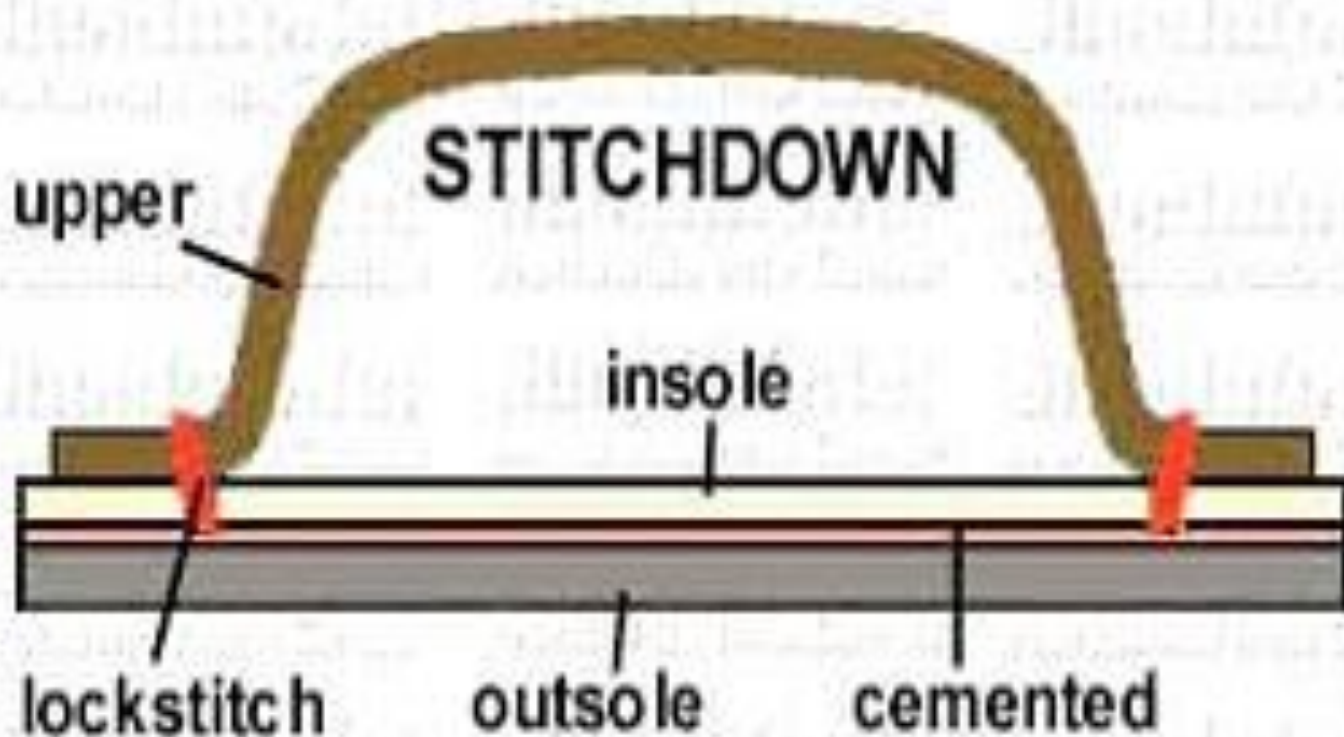
Advantages of Cemented Shoe

- ✖ This type of construction provides a comfortable shoe. The method of forming or lasting and sole attaching, makes possible light edges, and an appearance of daintiness of shoe bottom which is more difficult to attain by other construction methods. These characteristics lend themselves well to high style footwear.

7.2. STITCHED DOWN CONSTRUCTIONS

- ✗ This is where functional stitching is used during assembly of upper to the bottom components (midsole, runner, welt and the outsole).
- ✗ The different types of stitch construction are:
 - + **VeldtSchoen:** In this construction the upper is pulled over the last and **attached over to the extended part of the insole** (runner), and then **sole is stuck on**. Then the raw edge leaved (the upper materials, runner, insole and sole) is **trimmed and coloring** is done. The upper is turned out (flanged) at the edge of the last. This is then stitched to the runner.

- **Directly stitched to sole:** in this construction the upper is hand sewn or machine sewn directly through the out sole.



(Cement/thread
/staples)

7.3. MOCCASIN CONSTRUCTION

- ✗ The only construction that utilizes the lasting-up method, whereby the leather is pulled up from the bottom and over the last.
- ✗ 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.

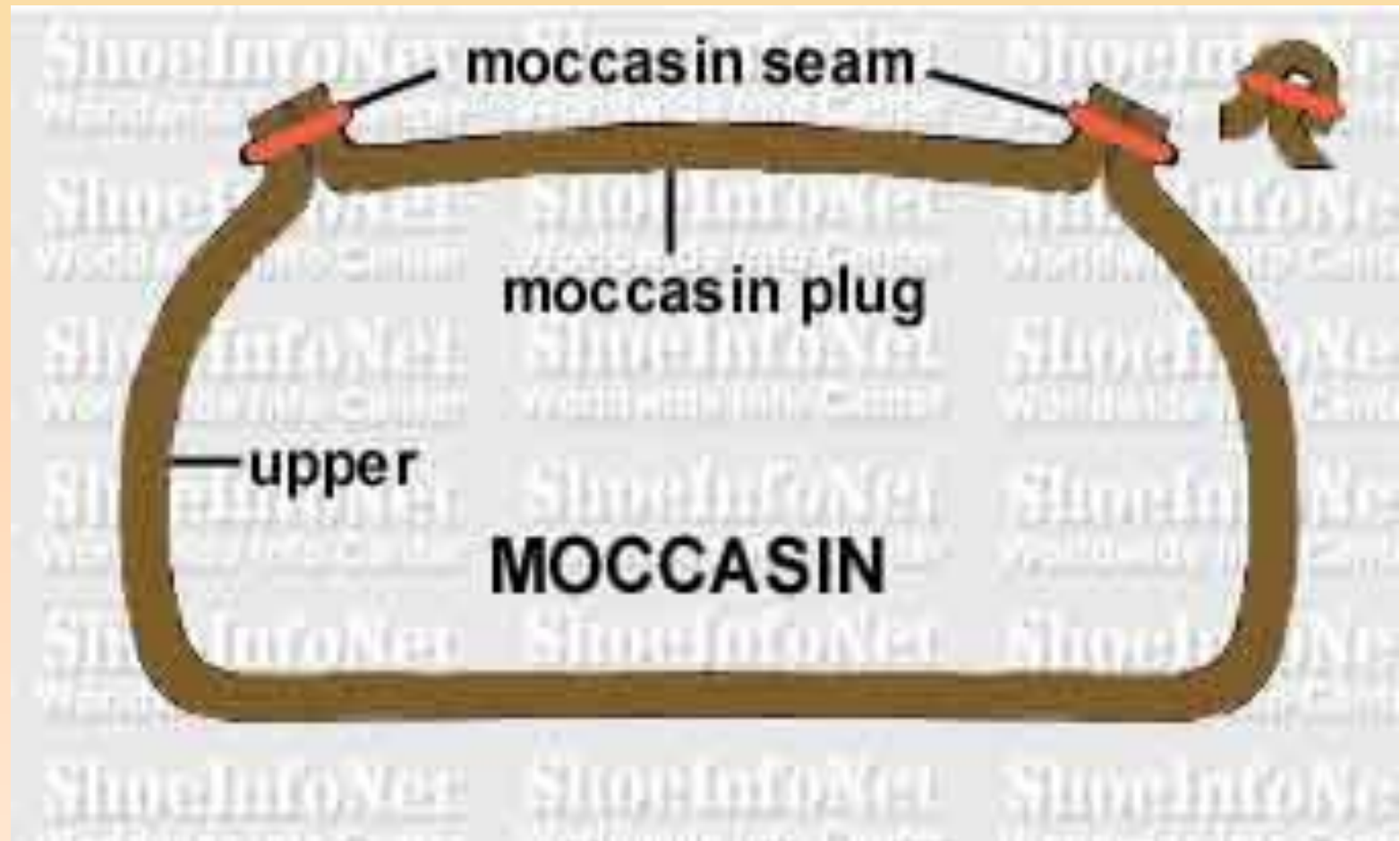
Identification of a True Moccasin

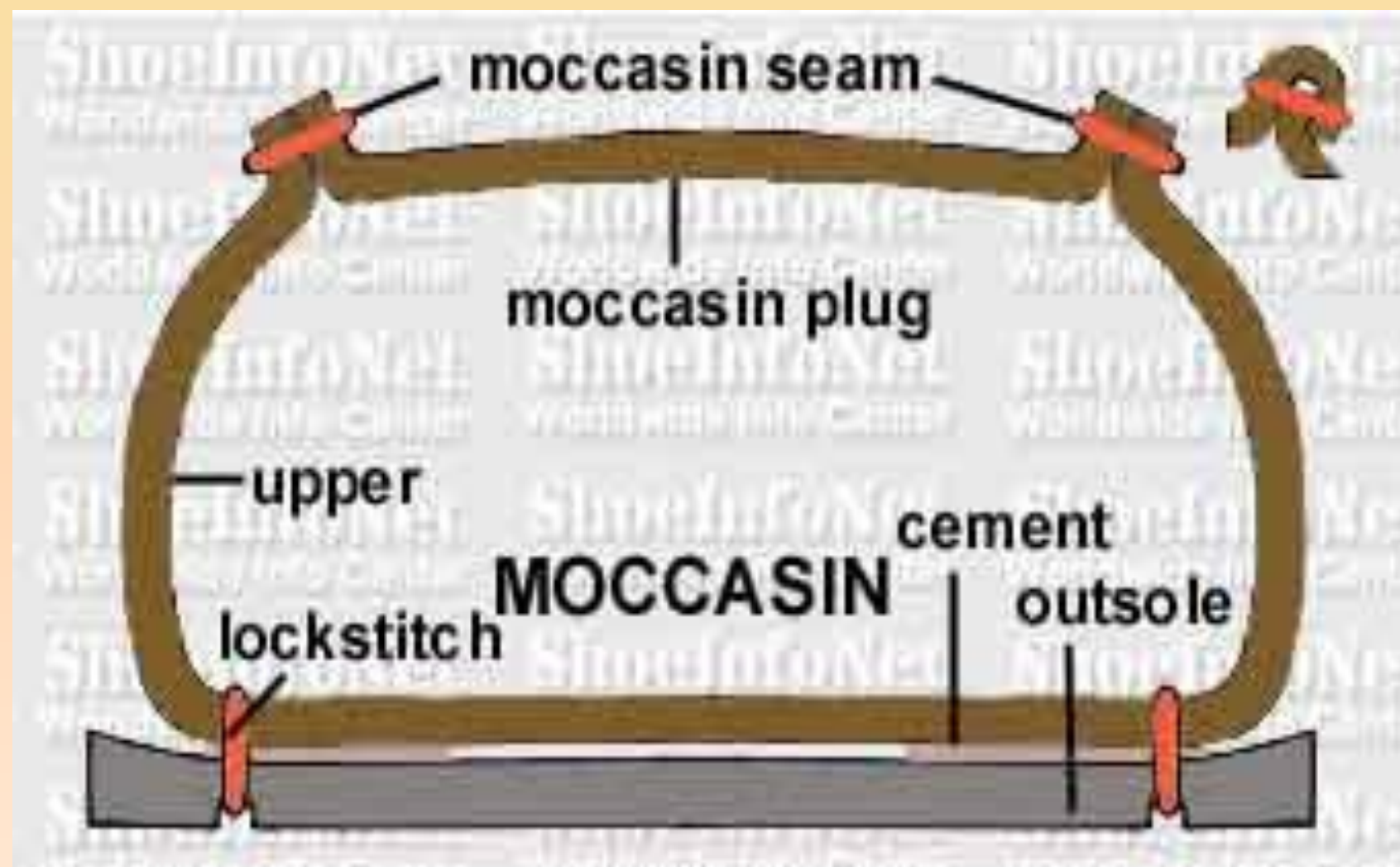
- ✗ A true moccasin has a one piece wrap-around construction without insole. The insole is formed by the upper leather itself.

Advantage of a True Moccasin

- ✗ A genuine moccasin is extremely flexible, light weight and comfortable,

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7.4. CALIFORNIA CONSTRUCTION

- ✘ It is also known as **Stuck Down or Slip Lasted Shoe**. It is in a cemented shoe category.
- ✘ The term slip lasted is derived from the fact that the last is inserted or slipped into the upper, that has already been constructed, and stitched to a sock lining by means of over-locking machine (Strobbel stitcher).
- ✘ Unit soles with raised walls or moulded soles are attached to completely cover the seam.
- ✘ This construction follows a process of cementing, drying, activation and then finally sole press.

CALIFORNIA LASTING (slip lasting)

upper

insole

2 threads
1

platform cover



upper

CALIFORNIA (SLIP)

thread

cement

insole

platform

platform cover

outsole

