

## **1.1 INTRODUCTION**

Over the last 40 years there has been a major change in footwear style and manufacture. Now a day's most of the people want qualitative and fashionable type shoe to maintain social status. A rope-sole shoe with canvas or strap upper for casual wear is known as Espadrille shoe. The rope is known as golden fiber in Bangladesh. Bangladesh is tropical country which is very suitable for cultivation jute. The fiber of the jute is being processed before it goes to the espadrille shoe manufacturing. This type of shoe is mainly suitable for climate and many industries export it and earn a lot of foreign currency. As the raw material is available in our country it has a great prospect for manufacturing qualitative and fashionable espadrille type shoe for international market.

## **1.2 AIM OF MY PROJECT WORK**

Aim of my project work is to know :

- 1) The history of espadrille shoes
- 2) The manufacturing process
- 3) World wide users and producer in Bangladesh

## **1.3 METHODOLOGY**

- 1) Review of the relevant literature
- 2) Observing the manufacturing process of espadrille shoe by visiting an industry of Bangladesh
- 3) Analysis the market

## 2.1 Footwear



High-heeled shoe

**Footwear** consists of garments worn on the feet. It is worn for a variety of reasons, including protection against the environment, hygiene and adornment. Usually, socks and other hosiery are worn under footwear. It is sometimes associated with fetishism, particularly in some recent fashions in shoes and boots. Some people are very passionate about fashion footwear.

## **2.2 PURPOSE OF FOOTWEAR**

The shoe has two primary functions to perform and has acquired through the years other lesser ones.

### **The primary functions are:**

a) To protect the sole of the foot from the heat, cold, dampness, dirt or roughness of the ground in walking and standing. In its simplest form this is achieved in the primitive "sandal" which is nothing more less than a piece of leather, wood or other material, fixed under the foot by a strap or other means.

b) To the upper part of the foot, and if required, the leg, from cold, rain, thorns, heat and insect or other bites. In its simplest form this is a bag of leather or material wrapped round the foot and is here given the generic name of "Moccasin". It is essentially that worn by a hunter, as it is flexible and specially suited to forest conditions.

### **Lesser functions are:**

c) To assist the foot to perform some abnormal task. This includes the various sports such as football, cricket, hockey, running, fishing, riding, mountaineering, dancing, etc. all of which today have their own special footwear. So, also, have many trades, such as mining, deep-sea diving, munitions manufacture and fire-fighting, and the armed services. It should be noted here that more primitive peoples with much stronger and tougher feet can tackle many of these sports, pastimes or occupations without special shoes, or, in fact, without shoes of any kind.

d) To complete a costume. This is particularly important today when costume designing includes not only the dress but also the hat, shoes. Gloves and handbag. In fact, the main purpose of the shoe may be to complete or enhance the

remainder of the costume, the primary functions of foot-covering and sole-protection being subordinate to this.

- e) To indicate rank or office. This is not applicable in western civilizations, unless we include the notorious "jackboot in this category, but formerly it was important, certain types of shoe being restricted to certain classes; there is obviously a very close link here with the purpose stated in above Para.
- f) To overcome abnormalities in the foot itself, the surgical boot being the extreme example of this, while many shoes incorporate corrective devices, some more corrective in name than in fact.

To fulfill the fashion. In some cases, the protecting purpose becomes trivial and here the main purpose is to meet the fashion demand.

## 2.3 Types of footwear



"flip-flop" sandal

### Boots

- Cowboy boots
- Go-go boots
- Kinky boots
- Motorcycle boots
- Platform boots
- Riding boots
- Thigh-length boots
- Ugg boots
- Valenki
- Waders
- Wellington boots
- Winklepickers

### • Shoes

- Athletic shoes (trainers) (sneakers)
  - Skate shoes
- Espadrilles
- Galoshes

- High heels; Stiletto heels
- Kitten heels
- Lace-up shoes
  - Derby shoes
  - Oxford shoes
- Mary Janes
- Moccasins
- Monks (shoe)
- Mules
- Penny loafers
- Platform shoes
- School shoes
- Tap shoes
- Sandals
  - "Mandals"
  - Flip flops (thongs)
  - Slide
- Indoor footwears
  - Slippers
  - Socks
- Specific footwears
  - Clogs
  - Safety footwears
  - Football boots
  - Ski boots
  - Snowshoes
  - Pointe shoes

- Climbing shoes
- Swimfins (flippers)
- Traditional footwears
  - Abarka
  - Geta

## **2.4 Different Raw materials which can be used in Footwear manufacture:**

We know that footwear has different components such as sole, insole, shank, upper, lace, eyelet, toe puff, stiffener etc. So we will have to mention the name of different materials used for different components.

### **Upper materials:-**

Upper materials can be of following types:-

- Leather: cow, buffalo, goat etc.
- Fabrics: woven fabrics, knitted fabrics, non woven fabrics etc.
- Synthetic or Artificial leather: PVC coated fabrics, PU coated fabrics, poromerics etc.

### **Lining materials:-**

Lining materials are as follows:-

- Sheep skin
- Split leather
- Woven fabrics (PU/PVC coated)
- Non woven fabrics (PU/PVC coated).

### **Insole materials:-**



The following are used as insole material:-

- Leather
- Leather board
- Fibre board
- Cellulose board

### **Soling materials:-**

There are different types of soling materials. They are:

- 1) Leather
- 2) Leather board
- 3) Resin rubber
- 4) Vulcanized rubber-solid -cellular
- 5) Crepe rubber
- 6) Thermoplastic Rubber (TR)-1.Solid ,2.Cellular
- 7) PVC (Solid)
- 8) PVC (Cellular)
- 9) PVC (Blends)
- 10) PU reaction moulded-1.Cellular,2.Solid
- 11) Thermoplastic PU-1.Solid,2.Cellular
- 12) EVA (Cross-linked)
- 13) EVA (Thermoplastic)
- 14) Nylon (PA)
- 15) Polyester, solid, units
- 16) Polycarbonate

**Toe puff materials:-**

Toe puff materials are as follow:-

- Vegetable tanned leather
- Nitro cellulose impregnated fabric
- Poly styrene impregnated fabric
- Thermoplastic toe puffs
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**Shank materials:-**

Shank materials are as follow:-

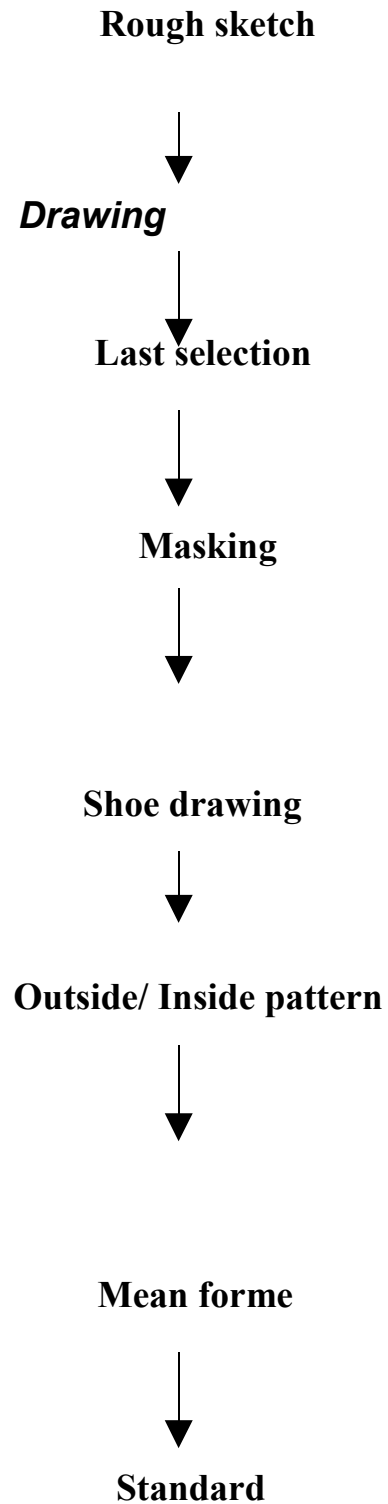
- High grade carbon steel
- Wood
- Mill board
- Plastic
- Fibre board

**Fasteners materials:-**

Fasteners materials are as follow:-

- Zips
- Buckles and straps
- Trims
- Elastics

## **2.5 OPERATIONAL SEQUENCE OF FOOTWEAR MANUFACTURE:**

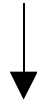




**Sectional pattern**

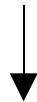


***Pattern cutting***

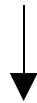


**Upper preparation**

**(Splitting, skiving, edge folding, eyeleting, toe-puff attaching and sewing)**



**Back part moulding**



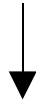
**Insole Attaching (Temporary)**



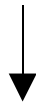
***Steaming***



**Toe lasting**



**Seat and side lasting**



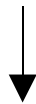
**Heat setting**



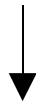
***Roughing***



**Tack removing (from insole)**



**Bottom filling**



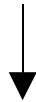
**Shank attaching**



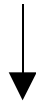
**Cementing the bottom**



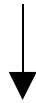
***Drying the cement***



**Sole and heel attaching**



**Last removing**



**Finishing**



## Espadrilles



Fig: Espadrille Footwear

### 3.1 Espadrilles:

Espadrilles are casual sandals originating from the South of France. They are often made of canvas or cotton fabric with a sole made of rope or rubber material molded to look like rope. The rope or faux rope sole is the defining characteristic of an espadrille; the uppers vary widely in style. In Quebec French, however, espadrille is the usual term for running shoes.

### **3.2 History**

The term espadrille is French, and derives from esparto, the Spanish name for a tough, wiry North African grass used in making rope. Espadrilles have been made in Catalonia since the 17th century, and there are Catalanian shops still in existence that have been making espadrilles for over a century. Traditional espadrilles have a canvas upper with the toe and vamp cut in one piece, and seamed to the rope sole at the sides. Often they would have laces at the throat that would be wrapped around the ankle to hold the shoes securely in place. Early espadrilles were worn by both men and women. Once peasant footwear, espadrilles have grown in popularity, and espadrilles can now be found made by top designers such as Donna Karan. Modern espadrilles are predominantly for women, though some men's shoes are made in this style.



### **3.3 *Modern Espadrilles***

The soles of espadrilles may be flat, platform or wedge shaped, and can be made of natural fiber or synthetic fiber rope, or flexible synthetic materials cast to resemble rope. Uppers may be made from nearly any substance, and may have open or closed toes, open or closed backs, and can be slip-on or tied to the ankle with laces. Thousands of varieties of espadrilles can be found, from inexpensive bargain brands to high priced designer brands.



***Fig: Modern espadrille Footwear***

### **3.4 Jute Sole Espadrilles**

Being the most popular natural fiber second to cotton, Jute has a great use of making soles of modern espadrilles. Wedged or soles of espadrilles are now mostly made with jute rope/braid and it's very popular because of its eco-friendliness comparing synthetic substances. Natural bright white colors of jute is a major design issue for modern espadrilles.



Fig: Jute sole espadrilles

### **3.5 Materials For Espadrille Type Footwear**

**For upper: Leather, synthetic, jute, fabrics etc**



**For Sole: Rubber, Leather, Jute etc.**



### ***3.6 Manufacturing Process of Espadrilles***

Espadrilles are manufactured in much longer procedures than other sandals/shoes. The jute soles, in particular, are the most critical part of it to make.

First the jute twines are braided with Braiding Machines. Jute braids are then formed into shapes of shoe sole manually and pressed hydraulically with heat to bring into exact shape of shoe-bases. Thereafter vertical stitching is performed to complete the basic jute soles. These basic jute soles are then put into vulcanization machines for rubber vulcanization underneath the soles. Thereafter EVA Foam/Wooden heels are placed with glue and more jute braids are wrapped with it to make jute soles. Uppers of different styles are then fabricated on the jute soles to complete espadrilles.

## **PROCESS**

- 1) At first jute is processed into yarn



- 2) Then the yarn goes to the braided machine and rolled



Fig: Braiding machine

3) The braided yarn then pressed by roller machine to uniform its thickness



4) This braided yarn is rolled into sole shape according to design specification on a moveable plate by hand then placed on a dye where it has to be compressed by applying pressure before it goes to the stitching machine





5) Then it is stitched by stitching machine and remove from the dye and finally it is ready to attach with rubber, leather sole and other kinds of soling material.



Fig: Stitching machine

6) Rubber is attached with rope sole in vulcanizing machine in presence of heat and pressure and others are manually attached by applying cement.



Fig:Vulcanizing machine

7) Among the following sequence of espadrille type shoe, **the major factor is side stitching** that is done by special type of side stitching machine before it goes to the lasting section





Fig: Side stitching machine

8) Then it goes to Lasting Section and upper is attached with the sole according to the design specification.



9) The upper is lasted on to the specified last and the lasting margin has to be roughened to avoid bulkiness during sole and upper attaching.

Then cement applies to the upper and sole before it goes to the heat setting machine.



10) Then it goes to the heat setting machine for cement reactivation and sole and upper are attached followed by sole pressing machine then cooled and delasted.



11) After delasting it goes to the finishing section for trimming, cleaning, finishing and finally ready for packaging.



### **3.7 WORLD WIDE DEMAND AND PRODUCER IN BANGLADESH**

Bangladesh is the major producer of highest quality jute with best colors in the world thus a good place to find premium quality jute-soles. Manufacturers of Spain, France and Italy prefer to import jute soles from Bangladesh and make their own uppers for espadrille of various styles. Cotheeka Jute Industry is a leading jute sole and espadrille manufacturer in Bangladesh. Sonali Aash, Cosmic Footwear, Bangladesh Exports also manufacture espadrille footwear.

Jute soles are typically vulcanized with rubber underneath for long lasting espadrille shoes or crepe soles are used as out-sole sometimes. Heels made of wood or EVA Foam are used inside Jute Braid Soles, typically.

### **4.1 CONCLUSION**

From this project work I found that for making qualitative and fashionable espadrille shoe it is very much essential to have well balanced machinery,

experienced worker to know about the functions of closing room, and lasting section. They must know about the design of the article and also about the common faults of the machines.

People of different countries like to wear shoes matching with the colour of their national flag. For example Japanese like to wear white and red shoes or the combination of both because the colour of their national flag consist of white and red colours and espadrille shoe can easily fulfill the latest fashion and their demand.

As the raw materials (jute) are available in our country and the labour and manufacturing cost is comparatively cheaper, it has a great prospect to occupy a large area in international market.

## **4.2 Bibliography**

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