

Organizing entity	ASSOCIATION OF INDUSTRIES OF FOOTWEAR AND ESPADILLES OF THE NORTHWEST OF MURCIA
Name of training action	Footwear and espadrilles sewing course
File Number	AC-2017-2662

MODULE 3 - Materials and tools. Glues. Leather, plastics and textiles, hemp, jute and esparto

Objective:

Acquire the capabilities to identify and use correctly, the materials and tools necessary for the production process at all times. The student will practice in the handling of scissors, brushes, hammer etc. to master afterwards the refining, bending, bending by hand etc. Likewise, the student will work with leathers and plastics to observe their differences and particularities, both in their touch and in their sewing.

Duration:

60 HOURS (15 PRACTICES)

Theoretical-practical contents:

UNIT 1. Tools: Hammer, punch, scissors, belts, tufts, lasts, fittings ...

UNIT 2. Adhesives. Glues. Latex

UNIT 3. Leather. features

UNIT 4. Plastics. features

UNIT 5. Textile Fibers. Features. Traditional textile fibers: jute, hemp and esparto

UNIT 6. Applications in the shoe

UNIT 1: TOOLS: HAMMER, PUNCH, SCISSORS, BELTS, COPETS, LASTS, FORNITURES ...

Next we will know the different utensils and tools, most used in the processes of preparation, assembly and termination of the process in a sewing workshop.

Hammers



The most important thing to keep in mind of hammers is that they do not have any angle that marks the leather. That's why everyone should have rounded edges.

We will use them to crush the possible bulges in the seams or in the bending and thus facilitate sewing (uniform seams and stitches), and that the machine works with less effort.

Punch



It allows drilling. It serves equally to split holes in the laces or perforations in the strap of a sandal and to decorate a piece in small circular die-cut.

SCISSORS



We will use different models, according to the needs we have.

So, we will use the first to cut the small threads, and the second to cut trims, ribbons, refining, leftovers etc.

STRAPS



Normally used to attach footwear to the foot.

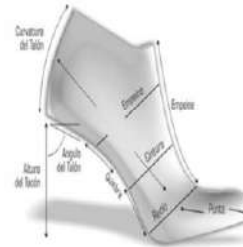
COPETS



bivaz.es

We refer to the the face in which the tongue is part of itself.

LAST



The last is the element that will determine both the shape and height of the shoe. In this sense, the choice of a suitable last is fundamental in the design of each specimen.

FORNITURES



We refer with this name to all those elements of the footwear with the function of: closure, adjustment or decoration, zippers, buckles, eyelets, rivets, studs, rhinestones, etc.

UNIT 2: ADHESIVES. GLUES. LATEX.

1.1 Adhesives

Attached guide of footwear adhesives

1.2.- GLUES



To work the footwear you always need a special glue, which must always be applied to the two materials that are to be joined and then allowed to dry for a few minutes.

It can be extended with a brush; to clean it, universal solvent is used. Glues can also be irritating and flammable; That's why it's always convenient to follow the manufacturer's advice.

1.3.- Latex.



Milky-looking substance consisting of resins, alkaloids, etc., which is obtained from the cuts made in the trunk of some trees and certain raw materials, such as rubber and lacquer.

The latex coagulates on contact with air.

In footwear it is widely used because of its characteristics it is essential for the bonding of linings and other components and for the conditioning of different footwear models.

Latex for shoe insoles.



Its properties make it ideal to keep the foot fresh and comfortable due to its damping and absorption characteristics.



In this case the latex provides softness and cushioning to the footwear, It keeps it with a constant body and without deformations.

Latex for boot cushioning.



Lets give body. Due to its perspiration characteristics it gives freshness and comfort.

TOPIC 3: LEATHER. CHARACTERISTICS.

INTRODUCTION:

Traditionally the material most used in the manufacture of footwear, both for the shoe face and for the lining, has been the leather, although currently the use of other materials is also very common, such as fabric, synthetic leather or plastic.

We focus on the different types of leathers that exist, their characteristics and finishes.

1.1.- LEATHERS ACCORDING TO THEIR PROCEDURE.

Bovine. It is widely used in footwear because of its great resistance and perspiration. It is used both for shoe face and for lining.

Calf. The difference with the previous one is in the fineness of the grain and in a characteristic softness. It is mainly used for shoe face.

Lamb. It has a low gloss and is very elastic, so it is used for liners and flexible shoes.

Pork. These are very durable leathers, they are usually used for linings.

Goat. They are thin and flexible leather. They are used for both linings and shoe face. They are recognized immediately by a very bright finish.

Other. In addition to classic shoes with a sturdy appearance of a gentleman, other leathers such as horse shoes are also used. And, among those known as exotic, the most frequent correspond to those of reptiles, fish or ostriches.

1.2.- FINISHES OF THE LEATHER.

Full grain leather: it has a smooth finish. After tanning he does not undergo any other treatment. Not being sanded, it retains all its thickness and unbeatable quality.

Flower leather: it is the most common. It has a smooth and uniform finish. Unlike the previous one, some type of treatment is always applied to correct small imperfections such as scars or stings. In case you need to undergo a strong manipulation in order to match it, it is called rectified flower leather.

Plush Nubuc: Nubuc is the result of applying an abrasive sanding technique to the flower leather that produces a velvety plush with a soft touch. It thus becomes more breathable to stains and sunlight.

The Suede leather is manufactured as a result of the inner part of the leather. It is also soft, breathable and stronger than the Nubuc.

Split: it has a plush appearance, but usually it is thicker and coarser than the previous two. It is very suffered in terms of shock and wear.

Patent leather: its appearance is achieved after applying layers of polyurethane on the leather, usually on suede, which provides its usual shine.

Laminated: as in the previous case, this type of leather is coated with a thin sheet, usually of plastic origin, to provide a different appearance. Usually, many metallic colored leathers are laminated.

Engravings: Currently they exhibit a great fantasy. One of the most recurrent is the engraving with exotic leather effect, so that mammalian leathers acquire the appearance of reptiles or ostrich. Currently they exhibit a great fantasy. One of the most recurrent is the engraving with exotic leather effect, so that mammalian leathers acquire the appearance of reptiles or ostrich.

UNIT 4: PLASTICS. CHARACTERISTICS

INTRODUCTION:

Synthetic materials are cheaper and therefore widely used to manufacture footwear in series. Cheap shoes are usually synthetic and plastic is used in different versions (ethylene-vinyl acetate, liquid silicone, polyurethane foam rubber, etc.) that are subjected to a set of processes to give the perfect finish.

Because these types of materials are flexible, malleable and can be subjected to high temperatures, they are widely used for the manufacture of soles and shoe heels.

It is also the material chosen for sports shoes although today most of the shoes have some synthetic component.

1.1- MOST USED PLASTICS.

Ethyl vinyl acetate



It is a thermoplastic type polymer. Its most significant characteristics are:

- Easy to paste.
- Easy to cut.

- Easy to paint.
- Low water absorption.
- Washable.
- Not toxic.

Being a very light material, it serves many common interests, is thermoformable, is washable, has no sharp edges, is not toxic, and can be painted with any type of paint.

It is also very common in the field of orthopedics, used to cover shoe insoles.

Ethyl vinyl acetate is also recyclable, as are other thermoplastics.

Some of its applications are:

- Shoe soles.
- Footwear (daily or bath sandals, sneakers)

Polyurethane foam rubber



Main characteristics of flexible polyurethane foam.

The known material is formed by bubbles due to the reaction of its two compounds: isocyanate and polyol that produce a reaction capable of releasing gases and carbon dioxide.

In footwear: the characteristics of the Foam and Rubber Foam are used to provide greater comfort medisuede leather plates, cuts in strips and different die cuts integrated into the designs.

1.2.- Plastics for the manufacture of soles.

1.2.1.- Thermoplastic soles:

Thermoplastic is a really flexible and malleable type of plastic when subjected to high temperatures. The two most common varieties are:

PVC SOLES:



They are made from resins and polyvinylchloride. The soles of this material are usually cheap but heavy and not very flexible, so they have been practically reduced for low-cost shoes.

TPU SOLES:



They are obtained from thermoplastic polyurethane by injection.

They have a great capacity of abrasion and resistance, more than those of rubber. They are also very flexible and isolated leathers, in addition to also damping the tread.

1.2.2. Expanded soles.

They are obtained from some thermoplastics (TR) in combination with components that expand them, therefore, increase their air particles and gain lightness. There are two types:

Polyurethane soles.



Polyurethane is a product of great lightness and flexibility and an enormous elastic return. It is used in professional and sports shoes.

EVA soles



1.3.- Plastics for the manufacture of heels.

Currently the most used are those of injected plastic, obtained from precise molds. To choose a suitable heel, you should consider the height that supports the last and the angle of inclination of the heel itself, proportional to its height.

CURIOSITIES

<https://blogthinkbig.com/el-plastico-del-oceano-se-utilizara-para-fabricar-zapatos>

UNIT 5: Textile fibers. Features. Traditional textile fibers: jute, hemp and esparto.

1.1.-Characteristics of textile fibers.

Textile fibers

Textile fiber is called filament composite materials that can be used to form threads or fabrics, whether it is woven leather or other leather physical or chemical processes.

1.2.-FABRIC MATERIALS



The fabric is one of the most used materials when designing shoes. Its main advantage is that we can find it with a wide range of designs, which can range from flowers to stripes. This allows to create fun and very striking products. It is often used in summer and spring footwear, a time where prints are the order of the day. As with leather, we can find different types of fabrics, depending on the use of the fabricsuede leathers. To say that shoes that use this material are not as durable as leather.

Canvas



The canvas, is a material that has been used in the world of footwear for many years. It is usually used to design footwear that is used dursuede leather during the summer and spring months. It is also used to create sports shoes. Its main advantage is that it is very easy to wash, in addition to offering a very beautiful appearance.

Cotton or satin is also used to decorate or line shoes and polar fabrics for the interior of winter shoes.

1.3.- YUTE





Jute (*Corchorus capsularis*) is a fibrous herbaceous plant, from the Malvaceae family, grown in tropical regions for its fibers. "Jute" is also the name of textile fibers extracted from this plant and a similar one.

1.4.- HEMP





Hemp or industrial hemp is the name that the varieties of the Cannabis plant receive and the name of the fiber that is obtained from them, which has, among others, textile uses.



There are more than 25,000 known uses of hemp.

The heating and compression of hemp fibers can create building materials superior to wood in strength, quality and cost.

Hemp fiber is very stable and durable. The fabric made with it is three times more resistant to tearing than cotton.

In general, hemp produces the most durable natural fibers, and due to its type of cultivation, no harmful chemicals are used in its harvest or processing, so textiles made with hemp reach our skin completely free of toxins.

1.5.- Esparto.

The dry climate and arid landscapes are typical of southeastern Spain, where there are many herbaceous and shrubby plants such as esparto, which belongs to the grass family, like wheat and barley.

Some of its defining characteristics are, for example, its durability in the field, its long and thin leaves, and its plume-shaped spikes.

Until well into the twentieth century, this plant had enormous utility, being used in the manufacture of tools for farming, threshing, household chores, tools for animals, etc.

But currently it has lost a lot of ground, being replaced by rubber, plastic or synthetic fiber.

However, some towns in our region still retain this artisan tradition.

Espadrilles are in fashion again. But what you buy is not esparto, it is jute. Esparto is disappearing and the Government has launched a plan to save this culture.

