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## **THE FIRST STEPS OF FUR AND LEATHER MANUFACTURE**

For centuries people have been searching for the right way to make quality leather. Now this mastery has an unlimited range of possibilities, but its basis is unchanged. So, the first steps are soaking, liming, washing and fleshing.

Soaking is the first operation of leather processing, it is used to clean hides and skins by removing various unwanted contaminants such as dirt, blood, flesh, grease and dung. It is carried out in alkaline conditions of a pH of 5.5-10. For this process the most useful machine is drum.

Sometimes accelerator and antiseptic are used for making process going faster and safer. It is really important, because these chemical materials kill all kinds of bacteria, that could cause putrefaction.

Drums are the most common machines that are used for different processes and operations, where big amount of water is needed. Materials we use for making drums are wood, iron, plastic. For the process of soaking some specific chemicals and water are dosed in the drum.

Those chemicals are:

- sodium carbonate;
- surface-active substance (sometimes);

At the factory, the drums form a real gallery, which makes their maintenance much easier. There are two types of drums: outboard drum and frame sectional.

Liming is a process used for parchment or leather processing, in which hides are soaked in an alkali solution.

Leather is made in the liming yard. The liming process is carried out in two stages. In the first stage, which is called unhairing process, the soaked **stock** is

treated with a mixture of lime and sodium sulphide

This is performed in drums for hides whereas a paint liming system is employed for sheep and goatskins as a hair shaving method.

The process of liming aims at:

- ✓ Removal of interfibrillary proteins.
- ✓ Removal of Keratin proteins.
- ✓ Collagen fibre bundle splitting.
- ✓ Removal of natural grease and fats

Chemical materials, which are used during the process:

- ❖ Sodium hydrosulfide – NaHS;
- ❖ Calcium hydroxide – Ca(OH)<sub>2</sub>;
- ❖ Sodium sulphide – Na<sub>2</sub>S

To get rid of the materials we don't need in skin anymore we wash the shins with a big amount of water.

Washing really takes a lot of time and water, because sometimes it needs from 1000 liters to 10 000 liters and way more, amount of which depends on the size of the drum.

Fleshing is based on the removal of subcutaneous fat to make all the materials penetrate into hides and skins. It is done with the help of a special fleshing machines of different types. It makes a difference for every size of skin.

To conclude, all of this processes and operations have been used and improved for so long and now we can just go ahead and develop them to reduce pollution and time we need.

## REFERENCES

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