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ZANOTTA'S WORLD OF LEATHER

The goal of this brief guide is to describe the principal production phases of the leather used by Zanotta for furniture, their types, diversities and unique characteristics.

Leather for furniture

Leather for furniture is a natural product that usually comes from bovines: bulls, cows, steers and calves. It breathes and is exceptionally resistant due to a series of operations that add a number of esthetic characteristics and functionalities to the product.

Bovine leather is made of three principal layers: the epidermis, the dermis and the subcutaneous layer. The dermis is made of a layer of superior papillary or grain (shown as "fiore" in the diagram below) where the design of the grain is characteristic for each animal species and the inferior reticular layer which make the dermis.

The epidermis, along with the hair and the subcutaneous layer ("carniccio") are eliminated during the initial phases of tanning a hide, while the superior papillary is separated mechanically from the underlying dermis.

The superior papillary and underlying dermis make the prime material for the tanning process which is done in large barrels using chromium to produce hides or skins or vegetal tannin to produce leather. The superior papillary gives origin to more natural and prestigious leather for furniture and leather goods. The underlying dermis is used to produce less expensive goods.

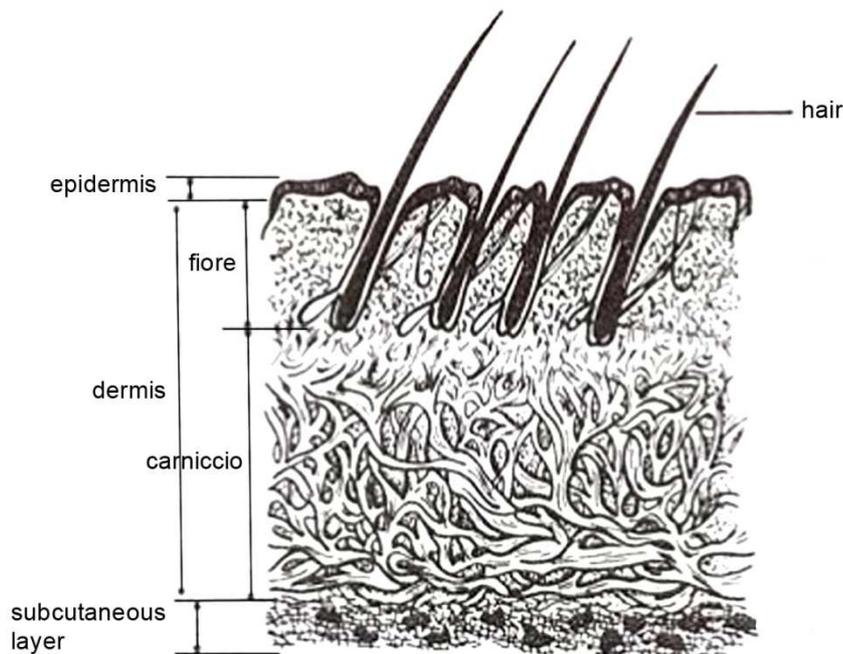


Diagram of a section of raw bovine skin (source Wikipedia)

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The production cycle

Leather for furniture is obtained from bovine hides or skins through tanning that transforms it into a very durable material.



Rawhides ready for the first tanning operation

The tanning process can be performed using mineral or vegetal substances depending on the mineral content and the organic substances used; the methods are called *chrome tanning*, *vegetable tanning* or *mixed tanning*

Vegetable tanning is performed by a long process, which could last up to 15 days, using natural vegetal or synthetic tannin that determines the characteristic rigid consistency and transforms the material, which is commonly known as leather.

Leather for furniture is much suppler than traditional leather and is obtained by *chrome tanning*; usually it is much faster, only 4 days, than vegetable tanning. The blue skins derived from this type of tanning are known in jargon as “*wet-blue*” if wet or “*crust*” if dry.



Leather tanned with chromium salts “*wet-blue*” and “*crust*”.

The tanning and retanning processes are finished with drying, an operation that removes a large part of the water contained in the skins and is performed in a specific device that dries the skins called a vacuum dryer, where the skins are pressed between two heated plates; a vacuum is created between the two plates and draws the moisture out.

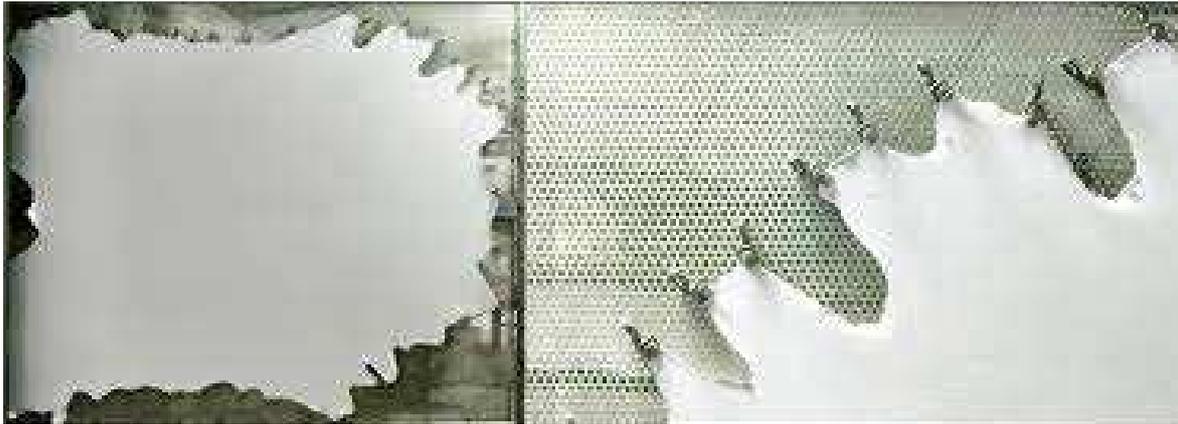
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Tanning and retanning in barrels

The final operation in the tanning process of leather for furniture consists of finishing, which is the sum of all the operations performed on the leather to improve the aspect and make the color vivid, uniform, brilliant and/or opaque and eliminate any possible defects.

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Drying tanned skin

The most prestigious skins, those with grain dyed with aniline, being completely natural, are felled in a drying barrel only once in order to increase suppleness and eventually a finishing phase of lightly spraying a transparent fixing agent on the skins to maximize the natural beauty of the grain.

Only a limited number of prime and secondary grade skins, and third and fourth grade skins are sanded on the surface with a sander that eliminates defects and flaws on the surface. For the third and fourth grade skins, an artificial grain is stamped on the surface with a press and die.

After sanding and stamping, the skins are laid on a conveyor belt and sent to be painted. One or more coats of paint is sprayed on the skin. The thickness depends on the quality of the skin and article on which it will be used. The coating is made of resin and polyurethane pigment and then is usually coated with a layer of protector.

Types of leather for furniture

Leather for furniture usually comes in three types. Each with its advantages and limits of use, therefore, diverse applications:

- Full grain leather, aniline dyed and not refinished (Grade: extra)
- Top grain leather, refinished with pigments (Grade: prime/second)
- Genuine leather, sanded and refinished, dyed with pigments (Grade: third/fourth)

“Full grain leather, aniline dyed, not refinished” is where the surface of the animal skin, the grain, has not been retouched. It is the most prestigious and expensive leather and notable for its naturalness, suppleness, breathability and durability.

This leather is dyed with aniline obviously in a passing method with pure aniline, all its thickness is treated, in order to maintain the most natural aspect of the leather and its grain possible.

“Top grain leather, refinished with pigments” is also full grained, however, besides dying the leather, a polyurethane pigment is sprayed on it to cover and in part hide any defects of the leather that make it less uniform and the color less brilliant.

Finally, *“Genuine leather, sanded and refinished, dyed with pigments”* is where the grain has been removed by sanding and printed on the surface with a press and die. Additionally, in this case, refinishing with polyurethane pigment spray makes the surface uniform and the color brilliant.

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Extra Natural Leather 99

Characteristics:

- full grain and very natural aspect
- chrome tanning and aniline dyeing
- exceptionally supple and excellent breathability
- no refinishing or additional coating
- grain and natural small irregularities visible

(note: the natural irregularities on the surface make the leather more valuable)

The Extra Natural Leather used by Zanotta is the most prestigious leather in the collection. Obviously, it is full grain leather, completely natural and has not been coated. The hues and different tones of color of the leather are an intrinsic characteristic of the article.

Extra Natural Leather is dyed in a barrel, obviously with the passing method, in order to obtain excellent penetration of the dye into the fiber of the leather all through it improving the aspect and naturalness.

The rawhides used to produce Extra Natural Leather are mostly from young bulls exclusively coming from Western Europe. This guarantees the quality because they graze in well-controlled pastures and are not range cattle, which increases the risk of damaging the hide.

Only 15% of rawhides become Extra Natural Leather.

The beauty of Extra Natural Leather resides above all in its natural aspect, its suppleness is extraordinary and it is very breathable, which makes human contact pleasing also during hot weather.

Nevertheless, the naturalness of leather, the particular effect of the transparency of aniline used as colorant, the lack of artificially modifying the grain, besides highlighting the uniqueness of the leather grain, determine and exalt the small irregularities that become distinguishing features and enrich the final result.

Stripes, color deformities and insect sting scars are considered as guarantees that the product is completely natural and makes the grain stand out; any type of artificial coating is avoided.

Finally, it should be pointed out that because of the extremely delicate operations performed on this category of leather, aniline leather is particularly perceptible to stains and dirt, which tend to be absorbed quickly, it scratches easily and it is not very resistant to light; also heat can accelerate fading.

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For this reason, to keep leather goods looking good over time, it is necessary to maintain and protect them constantly, in particular, from direct sunlight and heat starting on the first day of use. Maintained in this manner, Extra Natural Leather can age gracefully.



Extra Natural Leather: very natural; stripes, hues and slight imperfections are integral parts of the product.

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Nappa Leather 95

Characteristics:

- full grain leather
- chrome tanning and semi-aniline passing dying
- exceptionally supple
- light finishing coating
- small natural irregularities slightly visible

Nappa Leather quality is just below Extra Natural Leather because it also full grain that is very natural.

During the processing phases, leather that has only minor flaws is refinished in order to make the surface uniform while keeping the suppleness and natural aspect.

At the end of the dying operation, which also in this case is done with the passing method, a light film of protectant with a certain percentage of pigment is applied. This makes the leather more uniform and the color more brilliant. It also hides small natural irregularities and protects the leather more efficiently. Its characteristic is grain on the entire surface.

Napa Leather is also very supple, is very durable and resists lacerations, light and stains, making it more resistant and easier to clean than Extra Natural Leather.

Scozia Leather 90

Characteristics:

- sanded grain leather
- chrome tanned
- passing dying and pigment refinishing
- no visible irregularities
- very easy to clean

Scozia Leather is a so-called “pigmented” leather. Of the three categories, it has the least natural aspect and is more color coated and more uniform. The grain of this leather is removed during the first phases and is reconstructed artificially on the surface with a press and die, a process that stamps a grain pattern that has been etched on a die onto the leather surface. All leather produced with this method have the same grain pattern.

This leather is more resistant to light and scratches and because a film of pigment and polyurethane resin is applied to it. This coating makes the leather surface uniform. Additionally, a protective coating that improves the resistance to stains and dirt and makes it easy to clean is applied.