

LEATHER DICTIONARY



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HISTORY

Leather has been around for centuries. It is a durable and natural material made from the hide or skin of an animal by tanning. Skins and hides were originally used as blankets to protect captured animals from cold and damp. Its use was further extended in the making of clothing, shoes, boots, tent walls and boat covers. The ability to make and use leather allowed the people of our planet to survive in the coldest regions and it made life generally more comfortable.

Today, however, leather is pre-dominantly a by-product of the meat industry. Most leather is obtained from animals slaughtered for meat or after producing milk. Cows provide the bulk of leather used, while sheep, goat and pigskin supplement this to meet basic demand.



The process of preserving hides or animal skin by stabilising its structure and turning it into leather is called Tanning. While the tanning process is considered to be one of the main cultural achievements of mankind, it was probably an accidental discovery. Prior to discovery of the tanning process, hides were fleshed, rubbed, dried and mixed with fats and oils to preserve and make it waterproof.

The discovery that animal skins, when in water with certain plant residues last a lot longer led to the process of making leather. These skins absorbed all the tannins from the plant material which were dissolved in water making them more durable. Over the years, from this very basic technique developed sophisticated tanning process, which made a long-lasting and durable end product from hides and skins.

The discovery of chrome tanning in the 19th century, has reduced the production time and also led to the industrialisation of leather production.

Today's tanneries offer endless leathers with a variety of leather finishes and patterns.

HOW IS LEATHER MADE? - TANNING PROCESS

In ancient times, the production of leather was considered to be an 'odoriferous' trade. Tanning by ancient methods was indeed extremely foul smelling and hence most tanneries were situated in the outskirts of towns. The combined use of urine, & animal faeces and the smell of decaying flesh was what made ancient tanneries so odoriferous.

The process of turning rawhides and skins into leather involves various stages and steps. Below is a list of the most important processes. Most tanneries obtain hides or skins from a slaughterhouse or a farm.



Curing - Hides normally arrive at the tannery after they are cured with salt. The process of preparing hides with salt is referred to as Curing. This prevents the putrefaction of the animal hide by preventing bacterial growth.

Soaking - They are then soaked in clean water to get rid of any dirt and mainly to remove the salt applied in the earlier stage. Curing also removes water from the hides and soaking them, causes the hides to swell and bring them back to their original state



Liming & Unhairing - The hides are then soaked in Liming drums and treated with sodium sulphide and hydrated lime to destroy the keratinous matter. The main purpose of this process is to remove the hair from the hides. At the end of this process, the hide is usually very greasy due to a high fat content.

Fleshing - By this stage, the hides are still in a soaked yet softened condition. Traditionally, using a sharp but curved blade any excess flesh were removed by placing them on a beam. Today, however, this is done using machines.

Splitting - As the hides are quite thick they are cut into horizontal layers. The grain side or the top layer is used to make smooth grain leather while the bottom layer or the flesh side is used to make Suede or used as split leather for other purposes.

Pickling - This process involves making the fibres of the hides and skins more receptive to tanning. The hides are treated with acid to achieve the desired pH for optimal penetration of tanning agents.

Pretanning,- The hides may be lightly tanned and stabilised for further mechanical operations to further improve the penetration of tannins.

Tanning - The long-term preservation process of animal skin by use of tannins is referred to as 'Tanning'. Tannins, are an acidic chemical compound, and when they come in contact with the animal skin, they stabilise the fibre structure and prevent the skin from decaying, decomposing and oxidation.



There are 3 main types of tanning:

- 1) *Chrome tanning (almost all garment leather and shoe upper leather)*
- 2) *Vegetable tanning (usually belt, sole leather, horse leather)*
- 3) *Synthetic tanning*

Splitting - The material is then split to yield an upper grain split and a lower flesh split (usually used for the production of suede)

Neutralisation - Any leftover acids, dirt and grease are then removed by washing the hide.

Withering - Any residual water in the hides is then drained by putting it through metal rolls.

Sorting - The leather is then checked for any marks or blemishes. Flawless skins without any marks are then processed as Aniline leather and the ones which may have some marks may be processed as Corrected grain leather

Shaving - The leather is then thinned using a shaving machine to have an equal thickness. The fibres are cut from the flesh side.

Dyeing, Fatliquoring & Drying - The leather is then dyed, emulsions applied to ensure its softness and the leather is finally dried to promote the binding of chemicals.

Softening - After drying the leather is further softened on different machines.

Finishing - It can then be primed, further dyed, starched, pressed and ironed. Gloss levels can be adjusted, they can be monochrome or multi-coloured, smooth or grainy look or feel can also be created. Final review of the product quality and size measurement of the skins are carried out.



DIFFERENT TYPES OF LEATHER

What is Aniline leather? - Aniline leather is the most natural looking leather with the unique surface characteristics of the hide remaining visible. It is coloured by soaking it in drums with aniline dyes . Aniline leather is porous and smooth without a pigment based surface finish. On aniline leather the natural texture of the skin material is easily recognisable and they are usually classed as high-priced and high-graded leather. The best upholstery Full Grain leathers should display the natural markings and grain characteristics from the animal of which it was taken. Because of the missing pigmented colour layer on the surface, aniline leather feels natural, soft and warm to touch.

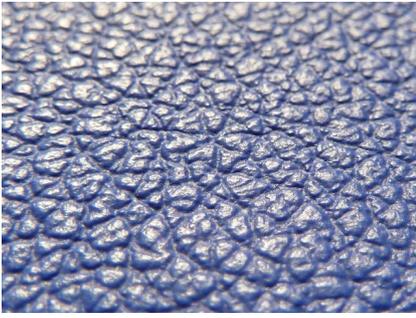
Test: Rub a drop of water in a hidden area of the leather. You will notice water penetrates the leather straightaway.

The pores of the skin must be clearly identifiable in aniline leather. At most, such leather is allowed to receive a finish with a hydrophobic treatment, but pigments are not allowed as a component of the finish. Aniline leather without any finish and completely porous is called pure aniline leather or just pure aniline. Aniline leather is used for all kinds of leather products. It is used as furniture leather, as handbag leather, for shoes or for clothing. They are rarely used for car interiors, as leather in cars is expected to be easy to clean and maintain which can only be achieved by spraying a pigmented coating on the surface of the leather. It is therefore important to know how to clean, protect and maintain aniline leather before any stains occur. It also requires the use of specialist products as in most cases standard leather care products can leave a permanent stain.



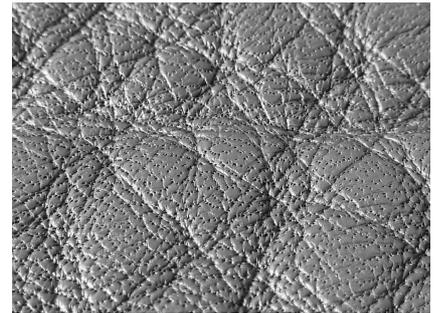
What is Pigmented leather? - Just like Aniline leathers, pigmented leathers also undergo the process of dyes by soaking them in aniline dyes. However, unlike Aniline leathers, Pigmented leathers are sprayed with a layer of pigment on the surface and then coated by a clear coat to provide durability. This colour coat prevents the leather from fading, general wear and stain resistance. Pigmented leather has a very uniform surface and colour. It is easy to clean and maintain and very durable. All these features mean this kind of leather is used heavily in the automotive and furniture industries. However, heavy layer of colour coat can affect the breathability of the leather and also make it feel plastic like. Pigmented leathers do not have the same soft and warm touch as Aniline leathers.

Test: Rub a drop of water in a hidden area. You will notice water stays on the surface.



What is Semi - Aniline leather? - However, the amount of colour coating differs substantially in some leathers. When a very thin layer of surface colour is applied, the leather is called Semi Aniline leather. This type of leather retains almost all of the natural characteristics but unlike Aniline leather, they offer a basic level of protection from stains and wear.

Test: Rub a drop of water in a hidden area. You will notice the water will penetrate eventually but not straightaway.



What is Suede? - Suede is made from the underside or flesh side of the animal skin. It is soft ,velvety and has a lovely nap to the surface. They are warm to touch, very breathable and pliable which is why they were historically used to make gloves. These days Suede is also used for shoes, bags and clothing but its use for upholstery is also not too uncommon.

Suede is porous and offers very little resistance to dirt and absorbs liquids very quickly. The colour of Suede can also fade very quickly if exposed to regular sunlight. Due to its velvety surface, it is virtually impossible to repair tears and rips on Suede. Suede is a very sensitive material and it is therefore essential to ensure they are well protected and maintained from the outset.



What is Nubuck leather? Nubuck is made by lightly sanding the smooth grain side of leather. The grain has not been processed, but it is brushed and polished. When these surfaces are sanded they get a velvet like texture and extremely lush appearance. The surface of Nubuck will change shade when you run your hand across it. Nubuck leather is extremely soft to touch and breathable. Most new Nubuck leather items are treated with waterproofing sprays to prevent any liquids causing stains but this protection diminishes over time with use. *This will have to be renewed and refreshed periodically.*

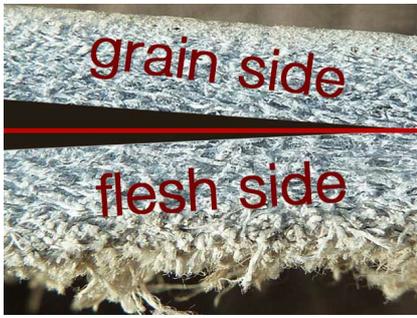


What is Split leather? Cattle hides are generally thicker in comparison to other animals. Depending on the thickness a hide can be split into different layers:

- Top grain or grain split is the uppermost layer of a hide.
- Drop split or flesh split represents the inner layer of the hide

An additional layer can be created if the hide is thick enough.

The grain split is then referred to as aniline, Nappa, etc, depending on the type of leather. The lower layers are no longer referred to as flesh split, but simply as split leather, split velour or suede. Top grain splits are the most valuable. The fibre structure is much denser in the upper layers making them more resistant to tearing.



What is PU Leather? - Split leather which are not good enough to be processed as Suede are coated with a plastic film. This coating is glued over the split leather making it look just like high quality grain leather when in fact it is cheap split leather with a PU film coating. Such leather is referred to as PU Leather - they are called PU as the coating is a polyurethane coating.

By law, it should be declared as 'coated leather' when the thickness of the coating is greater than 0.15 millimetres.



What is Pull Up Leather? - Leathers that are coloured via immersion with Aniline dyes and then protected using natural waxes and oils instead of being coated with surface colour or pigments are referred to as Pull Up Leather.

Pull up leather is very natural and soft to touch. It has all the natural markings and grains structure of the leather. Most Pull Up leathers are dark in colour mainly due to the natural oils and waxes applied. Pull up leathers lighten in colour when stretched and pulled and have an aged or lived in look. They develop patina in a very short space of time. One of the disadvantages though is they are porous leathers making them harder to maintain and look after. Due to very little or no clear coats, they can be prone to cause dye transfer problems. This is evident if you clean it with a damp cloth. *It is therefore important to waterproof and protect Pull Up Leather.*

Pull Up Leather can often be confused with PU leather.



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