

HIDE / SKIN STRUCTURE

It is composed of:

- an outer side called the *grain side*, including the fur (or wool, feathers, scales);
- an inner side called the *flesh side*, directly attached to the carcass.

Regardless of the animal species, the skin is made up of three layers:

- the epidermis,
- the dermis,
- the subcutaneous tissue.

> **THE EPIDERMIS** is a thin layer; it sinks into the dermis sometimes, thereby forming hair follicles from which the fur, wool or feathers grow. Its chemical constitution is essentially made up of a protein called keratin.

> **THE DERMIS**, also called “corium” appears as a web of fibres, mostly made up of collagen. When it is dipped into hot water (temperature greater than 37°C) it retracts and becomes gelatinous.

Collagen is a special protein structure.

In mammals, the structure of this interlacing is not identical throughout the thickness of the skin. The fibres are fine and dense in the area between the epidermis and the base of the hair follicles: this portion is called *grain*.

The rest of the dermis has larger fibres and the web is looser: this part is called *flesh*.

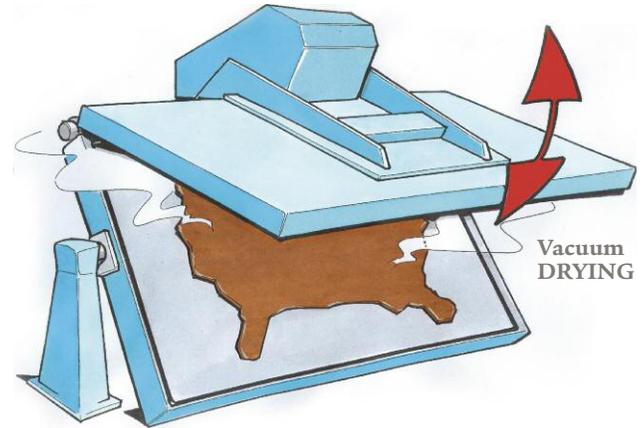
> **THE SUBCUTANEOUS TISSUE** is not clearly separated from the dermis. The fibres become looser and are laid horizontally.

The skin also contains elastic fibres that give it its responsiveness, sweat and sebaceous glands, nerve endings and bloodstream.

Skin that does not come from mammals, such as reptile, bird and fish skin, has a different interlacing which will be detailed in the section dedicated to exotic leathers. Of the three essential parts of the skin, only the dermis is transformed into leather. The epidermis and the subcutaneous tissue are eliminated before the tanning

reduces as the humidity falls, so as not to damage the structure of the dermis by drying it excessively. During this operation, leather distorts and loses its flat surface.

> **Vacuum drying:** leathers are placed between two plates on a special machine; one of the plates is heated, the other is porous and enables a vacuum to be achieved between the two plates. The steam is quickly removed, the leather being firmly pressed against the heated plate. A vacuum drying machine with multiple plates enables longer, more gentle drying.



> **Toggle drying:** the leathers are stretched manually or automatically on a frame and held by special clamps. The frames then pass through a heated and ventilated tunnel. This is the most commonly used technique.

> **Paste drying:** a plant-based starch is mixed into a paste and used to adhere the hides to a glass plate, which circulates in a heated and ventilated tunnel; upon exit the leathers are detached from the glass sheets. This method gives the leather a really flat surface and maximum area (low shrinkage during drying). Its use is in decline since it is a relatively unproductive method and the application of the paste (on the grain side) requires the grain to be buffed to remove the remaining paste, and that reduces the quality of the leather.



> Toggle Drying (automatic frame clamp)

CONDITIONING - STAKING

When leathers have been dried, they have a certain stiffness which is corrected by staking (and this requires restoring

Names and characteristics of leathers without finishing

“NATURAL” LEATHER

The surface of the leather does not receive any protective film-forming finish.

This lack of finish allows the leather to keep its unique natural appearance; however, the surface is not (or barely) protected from external aggressions.

They are very beautiful leathers, but fragile to use.

All full-grain leathers, regardless of the animal they come from (preferably obtained from flawless hide), can be marketed in this form, whether vegetable or chrome-tanned.

The main examples produced using chrome tanning are:

- lamb leather, called *plunged lamb* (“plongé”);
- calfskin leather, called *natural calf leather*;
- *kid* for gloves leather.



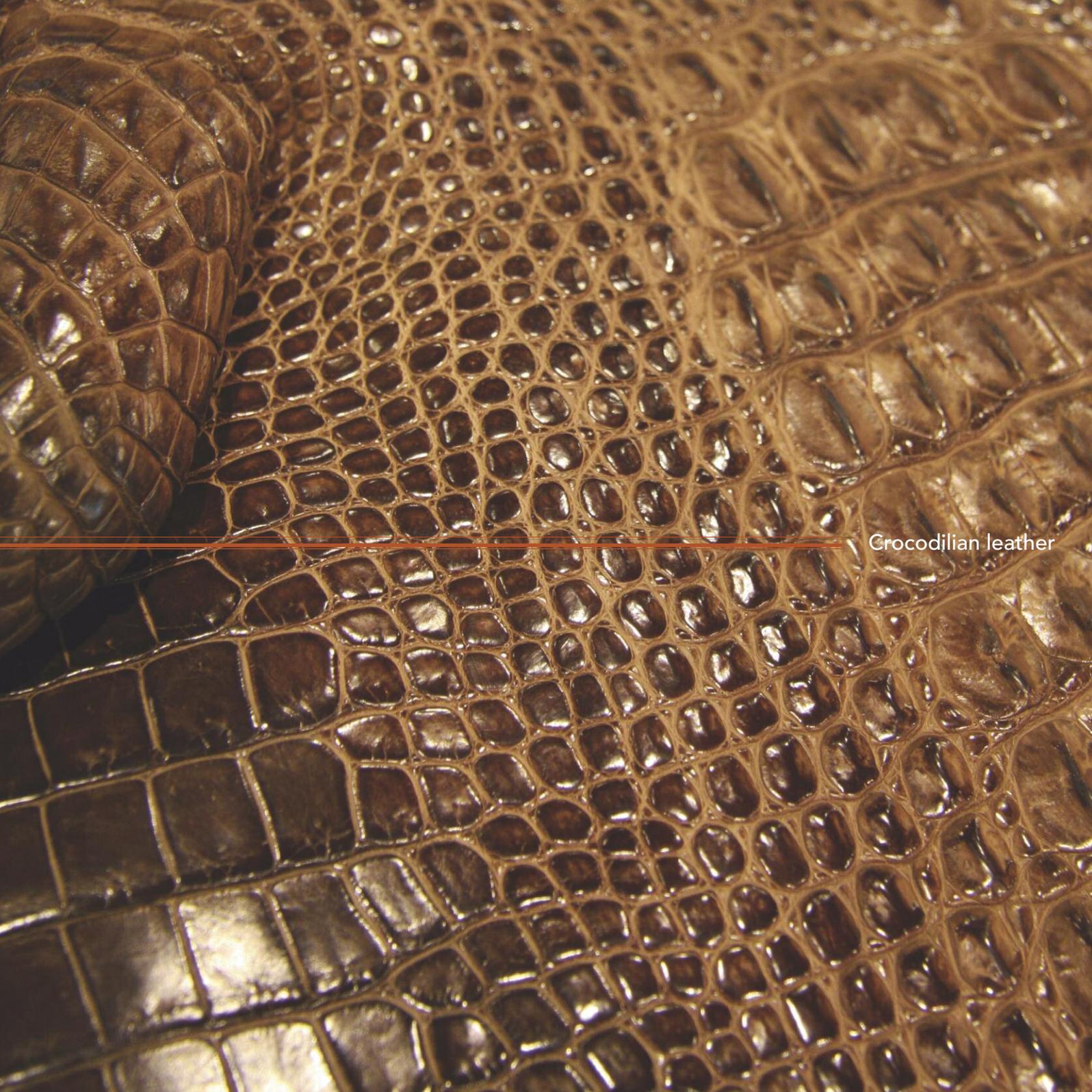
These soft leathers have a silky feel, and a unique appearance (due partially to the excellent quality of the skins).

It is preferable to waterproof the surface (mostly the same processes as for suede leather).

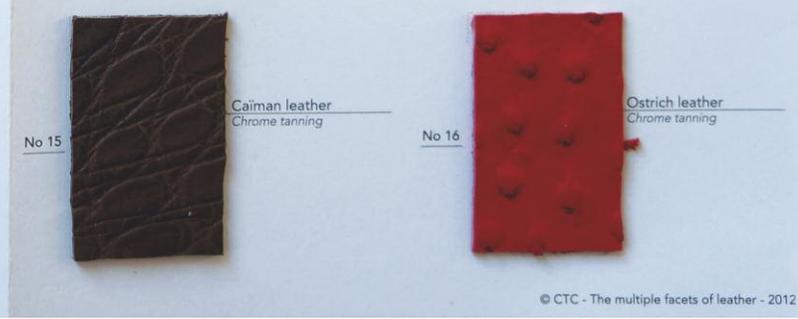
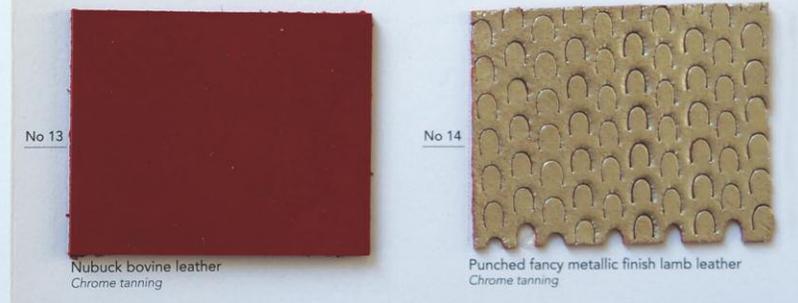
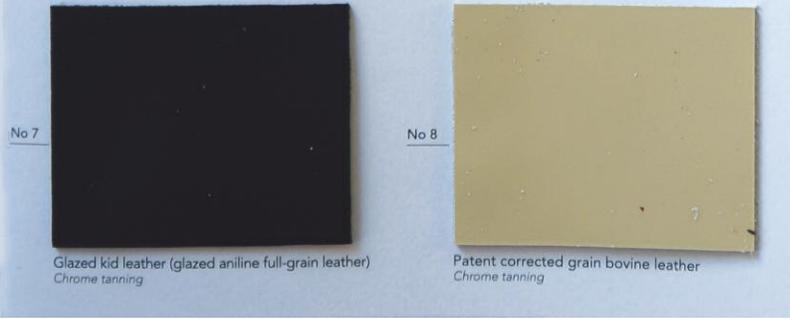
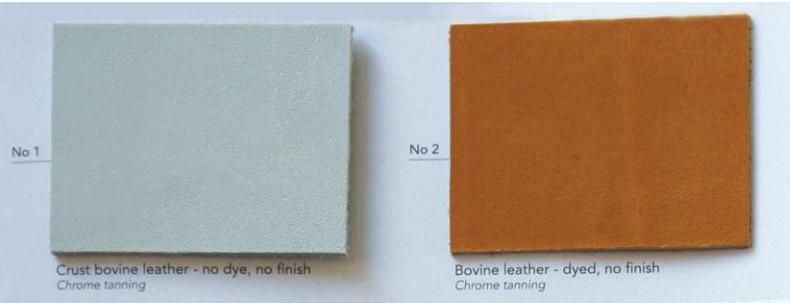
The main areas of use are gloves, clothing, leather goods and footwear.



> Vegetable tanned bovine leather for shoe soles



Crocodilian leather



* In case of a whitish veil, wipe the leather with a cotton cloth