

*Chatham County 4-H Leatherworks Club*

## **The Basics of Leather**

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**Leather** is a material made from the skin of an animal by tanning or similar process. The source animal can be wide ranging. The most common source is from cows, but leather can often be made from pigs, horses, snakes, lizards, alligators, crocodiles, cayman, etc. We will typically be working with cowhide.

**Rawhide** is leather before it is tanned. Typical usage refers to the state of a hide once it has been cleaned of the flesh and typically also the hair. It is then degreased and desalted then soaked in water, then allowed to dry it isn't immediately moved to the tanning process. To use rawhide it must first be rehydrated by soaking it in water.

**Grain and Flesh Sides:** The grain side of a piece of leather refers to the side that was on the outside of the animal of origin. It is typically composed of tighter fibers. The flesh side of a piece of leather refers to the side that was on the inside of the animal origin, i.e., next to the animal's flesh.

**Top Grain Leather** is the top roughly two millimeters of the grain side of a hide. This designation is frequently found on leather items. It means that the leather portion is maybe two millimeters thick.

**Suede Leather** is what is left of a hide once the top grain is removed. The fibers of suede leather are much less compact than the top grain. This is why it is generally rolled or pressed to add more temper or body to the suede.

**Leather Tanning** is the process of treating rawhide to produce leather. The tanning process changes the protein structure of a skin, making it more durable and less susceptible to decomposition.

**Vegetable Tanned (Vegan) Leather** is leather tanned using natural tannins (generally extracted from tree bark) and other natural ingredients. Vegan leather will tend to be "stiffer" and is the only type of leather suited for stamping and tooling.

**Chrome Tanned Leather** is leather tanned using chromium sulfate and other chemical ingredients. Chrome tanning was invented in 1858. Its chief advantage is that it is a quicker process and cheaper than vegetable tanning. The resulting leather is generally softer and often vat dyed bright colors. Chrome tanned leather is not suitable for stamping and tooling.

**Oil Tanned Leather** is leather tanned using fish oil and/or other oil and fatty substances that are stocked, or pounded, into a dried hide until they have replaced the natural moisture of the original skin. Such leathers are more water resistant, but are not suitable for stamping or tooling. When working with oil tanned leather, you need to keep it separate from other leather or the oil/fat will leach out and into the other leather, resulting in a stain. To avoid having too much oil in the leather that can leach out, wrap the oil tanned leather in newsprint or other lightweight paper that can absorb the excess oils and fats.

The **thickness of leather** is referred to as its weight. In the U.S., the weight is expressed in ounces. One (1) ounce is equal to a thickness of 1/64". In the shoe industry and in the UK, the measure of thickness sometimes used is an "iron". One (1) iron is equal to 1/48" or 3/4 oz. In the metric parts of the world, it is often simply expressed in millimeters.

## PARTS OF A COWHIDE

The leather from different parts of a cowhide have different properties in terms for firmness/temper and condition.

These characteristics along with the leather's weight can influence what leather you use in different projects. As a result it is important to know the different parts of the whole hide.

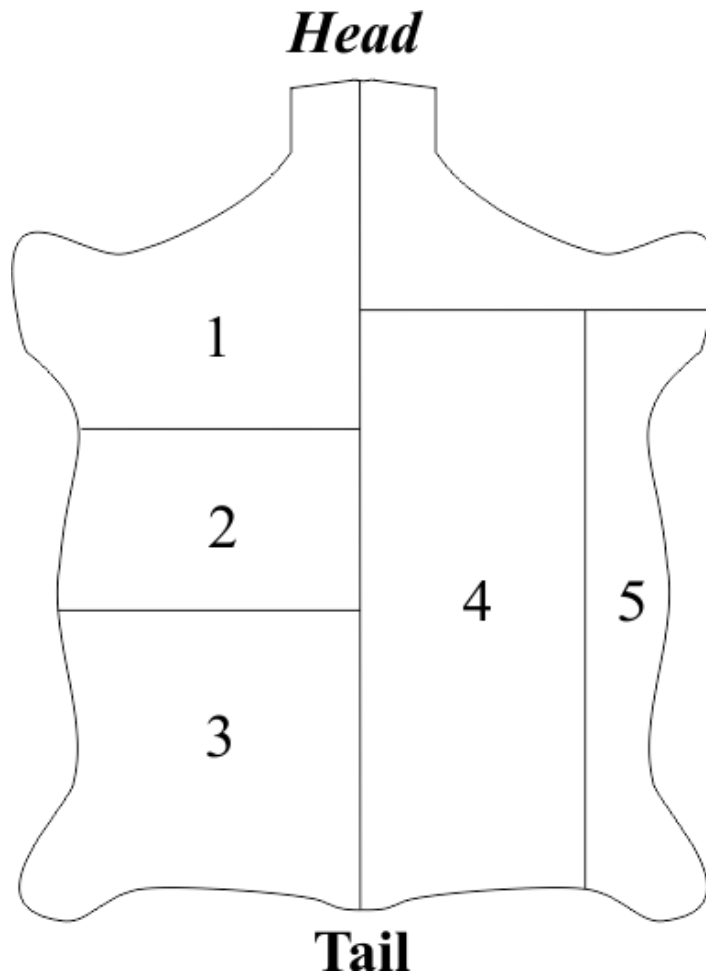
The illustration at the right identifies the parts of a hide. The entire image represents a **whole hide** once it has been removed from the cow. When cut down the center along the length of the hide, you get a side of leather (areas 1+2+3) in the illustration. Area 1 is called a **single shoulder**. Area 3 is called a **single butt**. Area 4 is called a **bend**. Finally Area 5 is called the **belly**.

You can also find **double shoulders**, **double butts**, and **double bends**. Each of these are found by cutting across the width of the hide at the appropriate places.

For tooling purposes, the least favorable parts of the hide are the belly since its fibers are more loosely compacted, i.e., it has a lower temper. You will also find marks from when the hides were hung to dry. This is also the least expensive part of the hide and can provide an excellent source of leather for practice.

The leather from the leg areas of both the shoulder and butt also have a lower temper and will have the hanging marks. The neck area of the shoulder will frequently have stretch marks from the cow's dewlap. These stretch marks can be considered a blemish for certain uses.

The bend or double bend provides the best leather for tooling, especially for larger projects; however, it is also the most expensive cut of the hide.



*Parts of a Hide (Illustration derived from Tandy Leather)*