

# Introduction to Leatherworking and the DMS Tools

## Types of Leather





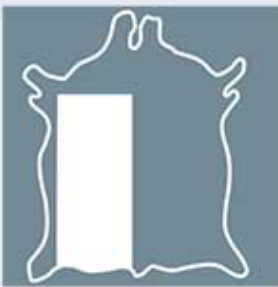



Vegetable tanned leather (Veg-tan): commonly used for tooling and stamping. It's tanned by using tree bark and other plant materials. It is sometimes dyed during tanning, it can commonly be found in flesh tone – this base leather takes dye well. The temper (firmness) of the leather is fairly consistent with relation to thickness. Because of the tanning process, you **CAN** cut this leather on the DMS lasers.

Chrome tanned leather: does not take tooling and stamping well (if at all). It's tanned by using chromium salts and is almost always dyed during the tanning process. The temper (firmness) will depend on the specifics of tanning – some will be firmer than others. Because of the tanning process, you **CAN NOT** cut this leather on the DMS lasers. Laser cutting will release toxic gasses and chlorine, which will quickly corrode the interior of the machine... and probably kill you.

## Leather Weights (Thickness) – General Guide



## Cuts of Leather

Leather Hide Parts:		Weight/Thickness Conversion			
		Ounces	Irons	Inches	Millimeters
<b>WHOLE HIDE</b>	<b>SIDE</b>	1 oz.	0.75	1/64	0.4 mm
		2 oz.	1.50	1/32	0.8 mm
<b>DOUBLE SHOULDER</b>	<b>SINGLE SHOULDER</b>	3 oz.	2.25	3/64	1.2 mm
		4 oz.	3.00	1/16	1.6 mm
<b>BEND</b>	<b>DOUBLE BEND</b>	5 oz.	3.75	5/64	2.0 mm
		6 oz.	4.50	3/32	2.4 mm
<b>BELLY</b>	<b>SINGLE BUTT</b>	7 oz.	5.25	7/64	2.8 mm
		8 oz.	6.00	1/8	3.2 mm
		9 oz.	6.75	9/64	3.6 mm
		10 oz.	7.50	5/32	4.0 mm
		11 oz.	8.25	11/64	4.4 mm
		12 oz.	9.00	3/16	4.8 mm
		13 oz.	9.75	13/64	5.2 mm
		14 oz.	10.50	7/32	5.6 mm
		15 oz.	11.25	15/64	6.0 mm
		16 oz.	12.00	1/4	6.4 mm

The above shows the most common cuts of leather – some places (Tandy Leather, Weaver Leather, etc) will also sell by the square foot, but usually at a significant markup. Most people will start with a single or double shoulder and that gives them enough to work with and some extra for any mistakes.

# **Tools at DMS**

## **Sewing Machines**

### **Baby Lock Zest:**

perfect for thinner chrome leather, upholstery leather. You do want a thicker needle rated for leather. You may need to check out with the Sewing SIG to be cleared to use the machines.

Manual: <https://babylock.com/resources/7048/download>

### **Pfaff 130:**

prior to acquiring the industrial leather machine, leather sewing at was limited to what could be done on a small home machine. However, the home machines that DMS owned were prone to breakage. So, the CA committee opted to add a vintage Pfaff 130 to the collection of machines. Because it doesn't zigzag, make buttonholes or any other fancy-schmancy stuff like that, it is quite robust and dependable.

Manual: <https://www.pell.portland.or.us/~orc/pfaff+130/>

### **Thor Industrial Machine:**

perfect for thicker leathers – it has the power to go through up to 3/4" of leather. You definitely need to be checked out to use this machine.

Manual: There is a QR code on the machine that links to the manual as well as a video refresher on how to thread the machine.

## **Hand Tools**

- Tooling & Stamping Tools
- Scratch awl
- Mallets & Mauls
- Cutting boards and Granite slabs
- Cutting tools (Exact-o, Utility and Head Knives)
- Skiving tools (thickness and edges)
- Edge tools & Dividers, Adjustable groover
- Strap cutter
- Dyes (oil, water, alcohol Alanine)
- Waxes, Conditioners
- Threads and needles
- Pricking Irons/Chisels
- Burnishing the edges/ wood slicker
- Gum Tragacanth
- Rivets, Snaps, Chicago Screws
- Punches: rotary, hole, oval, ends for belts.
- Contact cements and double-sided tape
- Finishes: Atom, Beeswax, Mink Oil

## **Mechanical Tool**

Craftool Sander and Burnisher: especially great for finishing off veg-tan projects. You can sand your edges smooth, then use the burnisher (with some beeswax, gum trag, or water) to get them glassy smooth. <https://www.youtube.com/watch?v=obsq2bwwxZw>

# **Safety and Usage**

What follows is a starter list of safety and usage guidelines for the DMS Leatherworking area. It is not complete and relies on common sense – if you're not sure, check. Ask someone. Look on the internet. Check YouTube. Generally, the tools are safe if you use them properly. If not, you'll end up either breaking the tool or cutting yourself. And it's unpleasant either way.

1. Clean up after yourself. That means sweeping up scraps, cleaning up any spills, vacuuming any debris, and putting the tools away in the correct place.

2. If you break a tool: first – it's ok. You probably weren't malicious or had ill intent. Review what went wrong. Was I using the mallet at an angle? Was the blade sharp enough to cut through the leather cleanly? Did I load X correctly? Second: report the breakage so that we know to repair or replace said tool. Generally, the hand tools aren't too expensive, so we can (usually) replace them semi-quickly. But we can only do so if we know.

3. When using the chisels for hand stitching: you MUST use (top to bottom) a cutting board, granite slab, and black Pouno board – IN THAT ORDER. If you mallet a chisel into the granite without a cutting board, you WILL break the chisel/punch/cutter/etc. If you do not use the black Pouno board on the bottom, you will make A LOT of noise.

4. There's a million different ways to saddle stitch. Personally, I think Jorge Soto (@webdevel on TALK) has the craziest and coolest. You can look up [a million different ways](#) to do so. But no one way is necessarily better than the other. We have 4 stitching ponies in the cabinet – feel free to use them but refer to Rule #1 when you're done.

5. Pay for your consumables: One of the cool perks we have here at DMS is the opportunity to stock some basic materials for people to use. If you want to dye leather but not commit to a massive bottle, we have you covered. Need a single line snap but don't want to purchase a pack of 25 for that single one? We got you. But we can only do so if people pay for that material. Want something we are out of or something we should be stocking? Let me know!  
[https://dallasmakerspace.org/wiki/Leather#Supplies and Consumables Cost](https://dallasmakerspace.org/wiki/Leather#Supplies_and_Consumables_Cost)

6. Stated above but restated for importance: if you don't know – ask. Look it up. Check YouTube. Leatherworking is incredibly rewarding and not a horribly difficult skill to learn. You can create some functional pieces as well as some amazing art. But if you don't know a specific skill – just ask. Someone around usually will. You can post on Talk, and you'll get 10 different opinions on the best way to do so.

# **Handy Links**

## Dallas Makerspace resources

DMS Leather SIG page: <https://dallasmakerspace.org/wiki/Leather>

DMS Talk (for questions): <https://talk.dallasmakerspace.org>

DMS Calendar (for list of upcoming classes): <https://calendar.dallasmakerspace.org>

## Some cool YouTube Leatherworkers

[Nigel Armitage](#): Lots of cool projects and tool guides

[Ian Atkinson](#): LOTS of cool projects and tool guides – probably one of the most complete channels on YouTube.

[Bruce Cheaney](#): for when you want to look at more heavy-duty projects as well as topics like stamping and tooling.

Leather Suppliers: [https://dallasmakerspace.org/wiki/Leather\\_Suppliers\\_List](https://dallasmakerspace.org/wiki/Leather_Suppliers_List)

(Note: Tandy Leather and Frog Jelly are local, and Weaver Leather Supply is a short hop down to Waco)

Questions? Comments? Concerns? Talk is your  
friend!