

Building a sword

Ingredients:

Core: Choose one of these, depending on availability: Kite Spar ; Graphite golf shaft; ½” PVC; Fiberglass rod; Bamboo (1/2” or less)

Padding: You will need both of these: Funnoodle (cored); U-Haul / Flooring / wrap foam

Tapes: A roll of each: Duct tape; Packing tape; Strapping tape; Grip tape. (Optional)

Tools: Hacksaw ; Kitchen knife or other knife with at least a 4” blade; Razor knife or “box cutter”; Scissors; Tape measure

Other items: Cloth cover for the new sword (required) ; Pipe insulation for a padded handle (optional)

Credits: Sir Downfall, Sir Duncan McFlann, Sir Whitewolfe, and Squire Gustav.

This method I will not claim is the lightest out there, but it works fairly well, and the bonus is that I have yet to have a tip blow out from this method of construction – thus allowing my weapons to last much longer than expected (3-5 months of 2-3 times weekly usage on average). The most common point of failure I have seen on most weapons is at the tip. Usually the tip of the core blows through the side of the noodle / padding. Often this is not found out until someone is hurt or complains about the weapon. Taking that in mind, I have refined my construction techniques so the tip will not blow out or will take a LOT of effort to do so. With my construction methods, the noodle breaks down to the point of needing a rebuild far faster than the tip blowing out does. So with all that in mind, here is my methodology for building swords.



I have included several pictures with this essay. In places where clear packing tape is normally used – I have substituted brown packing tape for ease of visibility.

Handles and Pommels.

As much as people want their weapons done quickly, this is an important step. Affixing the handle and pommel first really helps out when going for a specific length weapon, like a 36” short sword. And with the new rules being so specific on what should be strike legal and how long pommel/handle sections should be – this will help out a lot when making weapons to spec.

For golf-core weapons, cut a 1” section of the grip off the butt end so the core is exposed. Use strapping tape to cover the hole and build up the core to the size of the noodle hole. Take a 2” section of noodle and slide it over the tip to the butt of the handle. Fill the cored part of the noodle with scrap foam. Cutting the noodle down at an angle helps with making the noodle fit your hand better. Next, use a couple of strips of packing tape to hold the pommel in place. Torque wrap the pommel foam from the foam onto the handle with packing tape. This will secure the pommel and make a tapered pommel suitable for wrap shots. Cover the pommel in duct tape and it’s ready to go.



Core Preparation

Next measure the pommel/handle/core and cut the exposed core to 2" shorter than the desired overall length for the weapon. When cutting the core, both kite rod and graphite can splinter pretty badly. An easy way to prevent this is to wrap packing tape around the area you are going to cut. This will keep the fibers from splitting apart as they are cut. A hacksaw is the most convenient way to cut the core. A cutting wheel on a Dremel is also handy. Once the tip is cut, use a few strips of strapping tape over the tip of the core and then wrap strapping tape around the tip, to help dull any sharp edges on the tip.

Tip construction

Take a scrap of wrap foam and roll it so it's about 2" long and the same thickness as the tip of the core. Tape this roll to the end of the core so it sticks out past the end of the core. Wrap packing tape around this about 2-3 turns after securing it. This will help keep the tip from blowing out.



Blade construction

Blade length is easy enough to determine. Cut the noodle to 1" longer than the mark for the end of the handle to the tip of the core. Ideally the noodle should be secure against the core so it will not rattle and break down faster. If the hole in the noodle is bigger than the core, wrap foam will be needed to take up the extra space.



Determine how much wrap foam is needed to take up the extra space. A small (6" long) length of noodle the same size being used is helpful. Use enough wrap foam to make for a snug fit. On tapering cores like golf shafts, it is helpful to measure the amount needed at the hilt and near the tip, as they will differ, then cut the wrap foam to provide that taper. Cut the length of the wrap foam to 1" longer than the amount for the core. In the picture, I marked where the end of the core is to show how the lengths work.



Tape the strip of wrap foam to the core and wrap it around the core. Apply a strip of packing tape at the end of this wrap foam so that as it wraps around the core, it is $\frac{1}{2}$ on, $\frac{1}{2}$ off the core tip. (see above pic) Again, this is to keep the tip from blowing out. Once the wrap foam is wrapped around the core, another couple of turns of tape near the tip will help get the noodle started on the blade and keep the tip from blowing out. Slide the noodle into place. Turn the noodle so that it continues the direction of the wrap, and keep sliding it on until the noodle is fully in place. Ideally it should be snug, but not very difficult to get the noodle onto the core.



Run a strip of packing tape from the hilt up the length of the blade, over the tip and back down the other side. Repeat until the whole blade is covered in a “skin” of tape. Usually, only three strips are needed.

Torque wrap the noodle onto the handle. Start from 2” above the handle and work back onto the handle. This will affix the noodle in place, and it won’t come apart easily. The result should look like the noodle tapers onto the handle.



Stabbing Tip:

Cut off a 1" slice of noodle. Solid noodle is preferred, but cored will do. Just stuff the hole with scrap foam. Before attaching the stabbing tip, use a dinner fork or similar to "tenderize" the noodle. (Similar to tenderizing a steak) use a few strips of strapping tape to secure the stabbing tip. It's also useful to wrap the strapping tape around the securing strips a couple of inches down from the tip to keep things in place.



Heat Curing (strictly optional)

As taught to me by Sir Duncan, baking your swords can help them last longer. This must be done with care, but it does keep the tape from breaking down.

Set your oven to bake @ 400 degrees. Give it a 5 min warm up, then open the door partially (most ovens have a stop on the door spring to allow for this) place your sword over this opening and begin to turn it slowly. The wrinkles in the tape will disappear and it will warm up. The tape may even separate from the noodle a bit. Should only take about a minute or so to complete the “curing” Bake it too long, and the tape will curl back on itself and break down the noodle VERY quickly.

The overall intent of this is to slightly melt the glue on the tape and allow it to adhere better to the noodle and itself. When the tape and glue cool off, the wrinkles should be gone and the tape will not separate from the noodle when wet or hot. Another option is to use a heat gun – this has worked out fairly well, but keep it moving to avoid hot spots and sections of individual breakdown.

Finishing touches

Sewn cloth covers really don't add a lot of weight, last tremendously longer and look better than the ever-popular trouser socks or nylons. Cut your cloth to 9 1/2 “ wide and cut to length. Sew one end closed and pull it over your new sword. Tape the cover down and you are ready for the next battle game!

