

In this manual I will describe my way of reed making. I do not limit myself to historical methods. The manual is free for private use, I am happy if it could help in making your own reeds for your Aulos. Please note: It is a slow way to produce good reeds. Success rate is not very high at the beginning. Also later not every reed survives this working process.



Reeds for Aulos in Duduk – style
by Th. Rezanka 2014



Reed for turkish Mey
Foto: Tobias Weber



Reed found with „Berlin Aulos“
Photo of drawing: Stefan Hagel

The cane:



I use *Arundo donax* for my reeds with an outer diameter of 11,0 mm – 11,5 mm.

I buy Spanish cane in this specification from www.medir.cat

I cut the cane into tubes with a length of 48,5 mm to 49,0mm on a band saw.
From one piece of cane I get 2 or 3 tubes.



To get tubes with same inner diameter I drill them with an 8,1mm metal drill bit.
Later I use a self-made tool from brass which has an outer diameter of 8,0mm. This tool must fit into the bore of the cane tube after it has swollen up in hot water later.



Wood Lathe:

The next step is removing the bark from the cane tube. You can do this with a knife or with abrasive paper. I use a wood lathe for this process, that's more comfortable for me and takes less time. You can clamp the cane tubes between 2 tips on the wood lathe. Be careful during clamping, too much pressure will split the cane tubes! I use a tip on one side and a simple tool made from wood on the other.



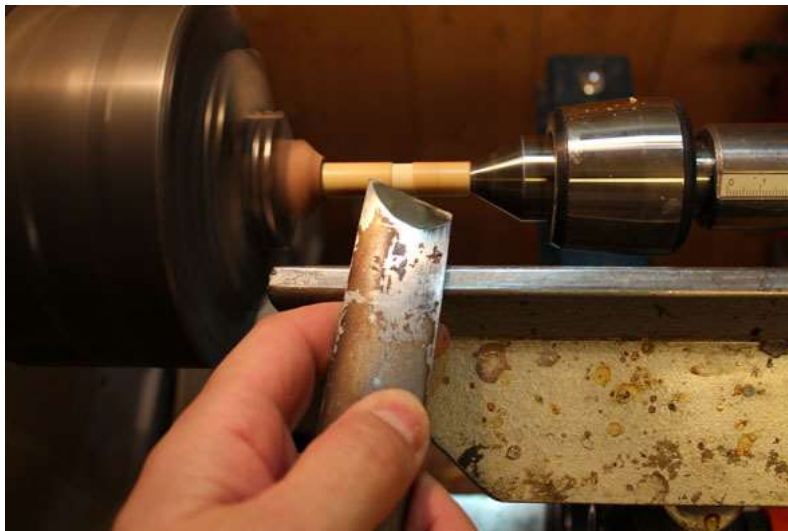
Now I make a mark on the tube 22 mm from one end. This part of the tube keeps its bark and will be placed in the reed seat later.



First I take a parting tool to remove cane near the mark.



For the rest I take a skew chisel.



Do not take off too much cane!

Diameters after finishing in mm



~11,3

~10,3

~10,0

The advantage of using this method is having a nearly round cane tube at the end of this process.



Put the tube in hot water for minimum 2 minutes to make the cane weak.



When the cane is weak enough take it out. I made a simple tool out of brass for the next step. This tool will be put inside the tube. The smaller part with 6mm diameter will be used to form the reed seat, the bigger part goes where cane has been removed.

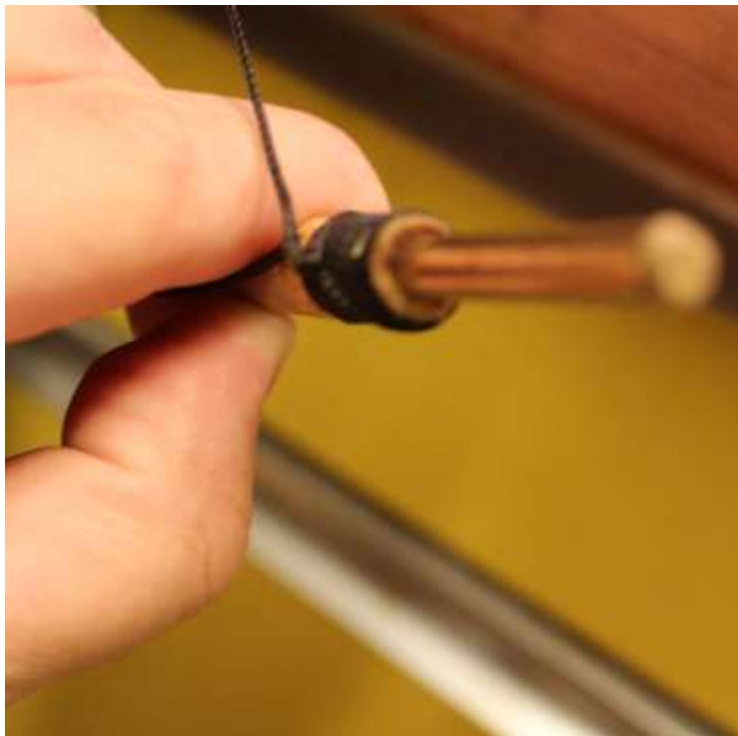


The reed seat has to be made narrower now.

For this I fix a strong cord on my vice and tie the other end to a wooden bar for easier pulling of the cord. Wind the cord around the unworked part of the tube and pull the cord. The pressure will narrow the weak cane till it fits the brass rod.



Two minutes later take off the strong cord and wind another cord around the narrowed part.
Leave to dry for a minimum of 12 hours



After 12 hours, when the cane is dry and hard enough again, take off the cord.



Fix the wooden tool for keeping the cane in shape. The tool is cuboid with a conical hole in the middle.



Put the reed again in boiling/hot water for at least 3 minutes. The cane gets weak again.

After the cane is weak enough fix a glueing clamp on tips of the cane.

I bought this clamp here: www.profistar.de (German: Leimzwinge 150mm)

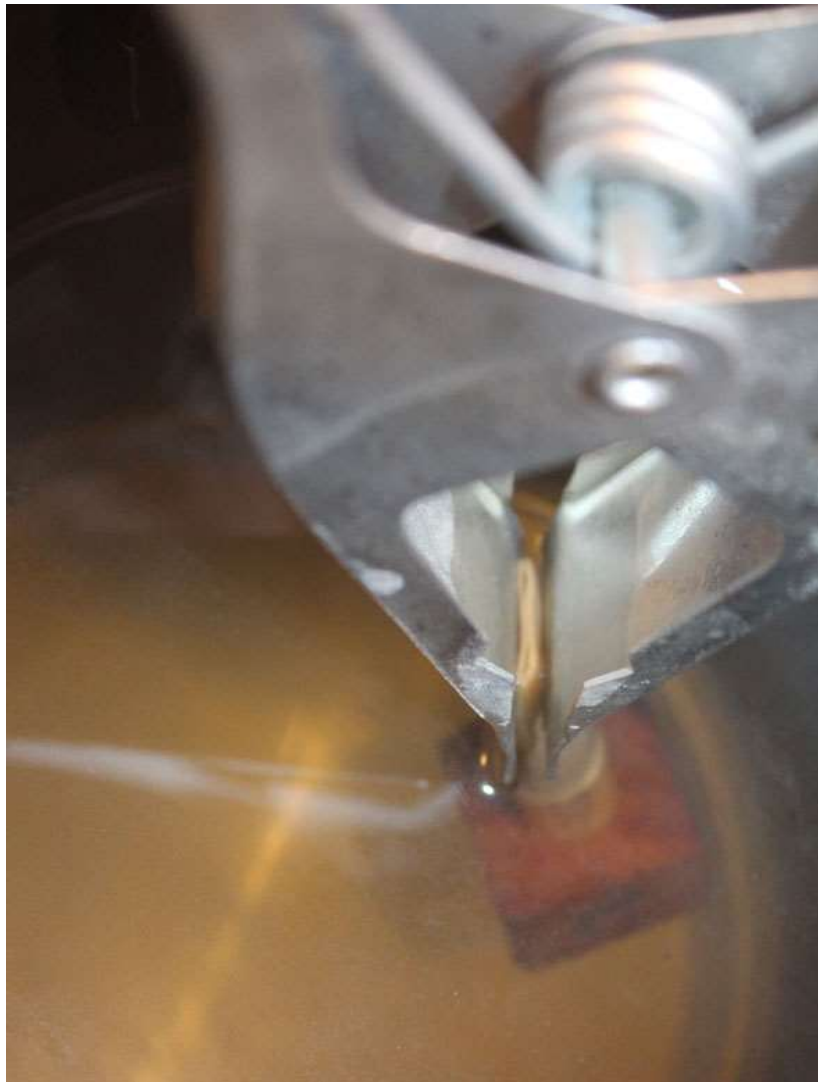


Put the clamp with the reed again in boiling water. Close the tips of the clamp very slowly.

If there is too much material on the tube left, the cane will break.



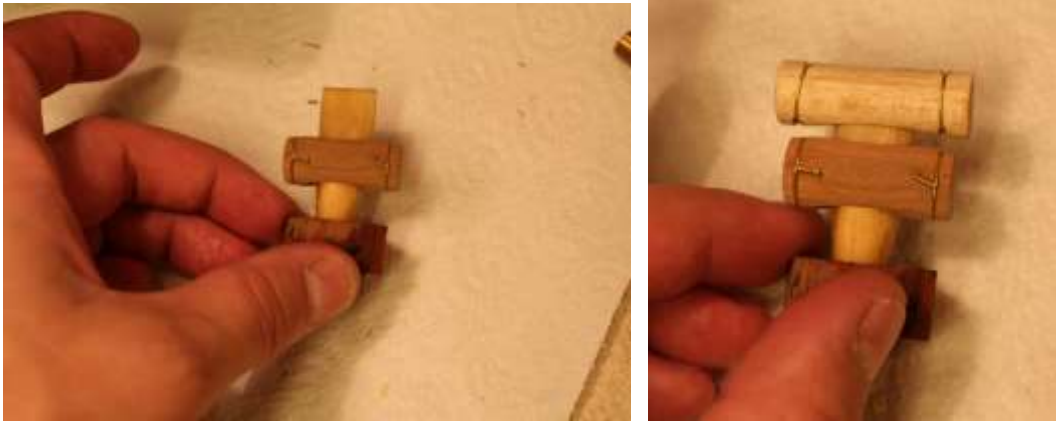
The mouth of the cane tube will close in boiling water very easily.



Take the reed out again, be sure that all hot water is out of the reed – it can burn your fingers.

Fix the bigger wooden clamp on the hot reed first, then the smaller one for the mouth of the reed.





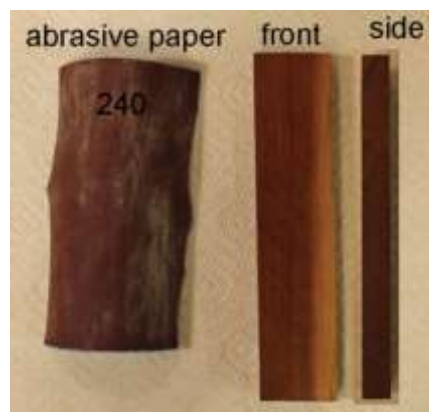
The reed must dry in this position for at least 24 hours. Give the reed the time to dry it needs, do not attempt to speed up this process, for example, by using a hairdryer.

After 24 hours the reed is dry and strong again, you can remove all clamps.

The reed has got it's special shape now.



Take abrasive paper and a small wooden block as a sanding aid and thin the blades a little.



If the cane has split (95% of my cane splits during clamping in boiling water), the edges should be sanded so that they are in line, one above the other.

Take some oil (food safe oil, I use sunflower oil) and put only a little touch of these oil on the centre of the reed. Do not oil too much and do not put oil on the lips of the reed.



Fix the clamp on the mouth of the reed again.



For the next step I use a heat gun, but it is also possible to do it with an open fire flame (gas cooker, Bunsen burner, etc.). I prefer the heat gun because it is possible to control and adjust the heat. Rotate the reed above the heat gun at a distance of about 10cm till it turns a light brown colour. This process of toasting fixes the cane in the correct position. Later the reed will not swell as it absorbs moisture while you are playing.



Here you can see a toasted reed.



Sand the reed again till you are able to get sound out of the reed.

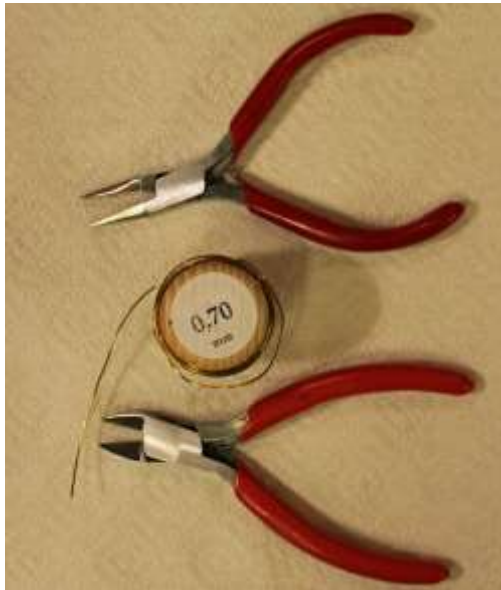
It is necessary to sand on the sides of the reed, the lips and the centre of the reed.

This process needs experience, it is hard to describe.

Make the winding for the reed seat with waxed (e.g. bees wax) darning wool. It is important that the reed fits snugly into the reed seat of the instrument.

If not, the instrument will overblow.

Now it is time to make a bridle. I prefer brass wire (0,7mm brass wire) for my reeds. With small pliers it is easy to adjust the bridle of the reed.



A more authentic way would be using a bridle made out of cane. For this, use leftovers (e.g. split cane tubes from working on the wood lathe) and cut out small strips. Boil these strips in hot water and bend them on a special bending rod. Bind the ends with strong thread.



Using such a bridle needs much patience for adjusting your reed.

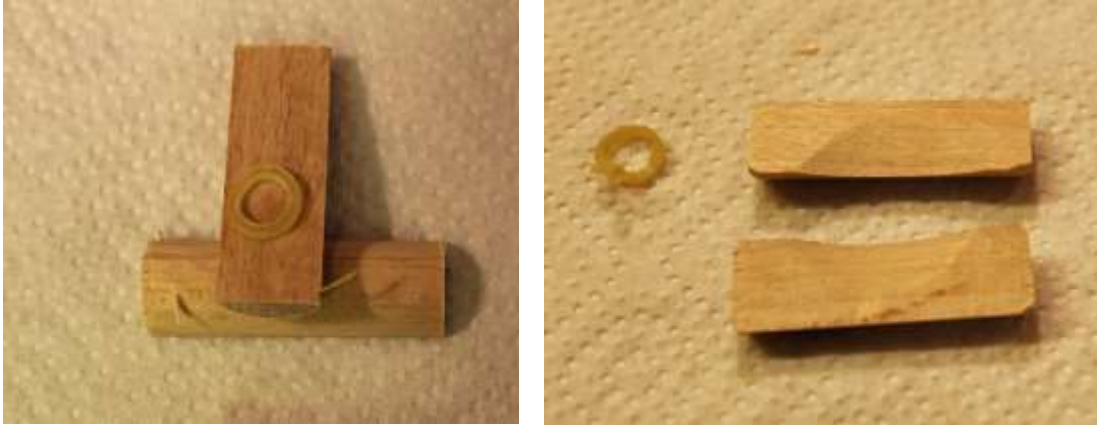


If you did a good job on sanding, the reed should be ready for playing now.



How to make a clamp for protecting the reeds lips:

I use a dowl rod made from beech and cut in two parts.
I give it the inner shape using a belt sander.



I use rubbers bands intended for braces. Good to have children ;-)
I also saw rubber bands in that size in shops for fishing accessories but they were much more expensive.



A finished clamp

