MY LOW-TECH, LOW-CHEMICAL DOPPING METHOD

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I dop everything (quartz, CZ, corundum, garnet, spinel, tanzanite, beryl, opal, peridot, sphene, feldspar, fluorite so far) with wax. That includes my competition stones. I found people who dop with wax are quite the minority. So my post here might be of curiosity interest.

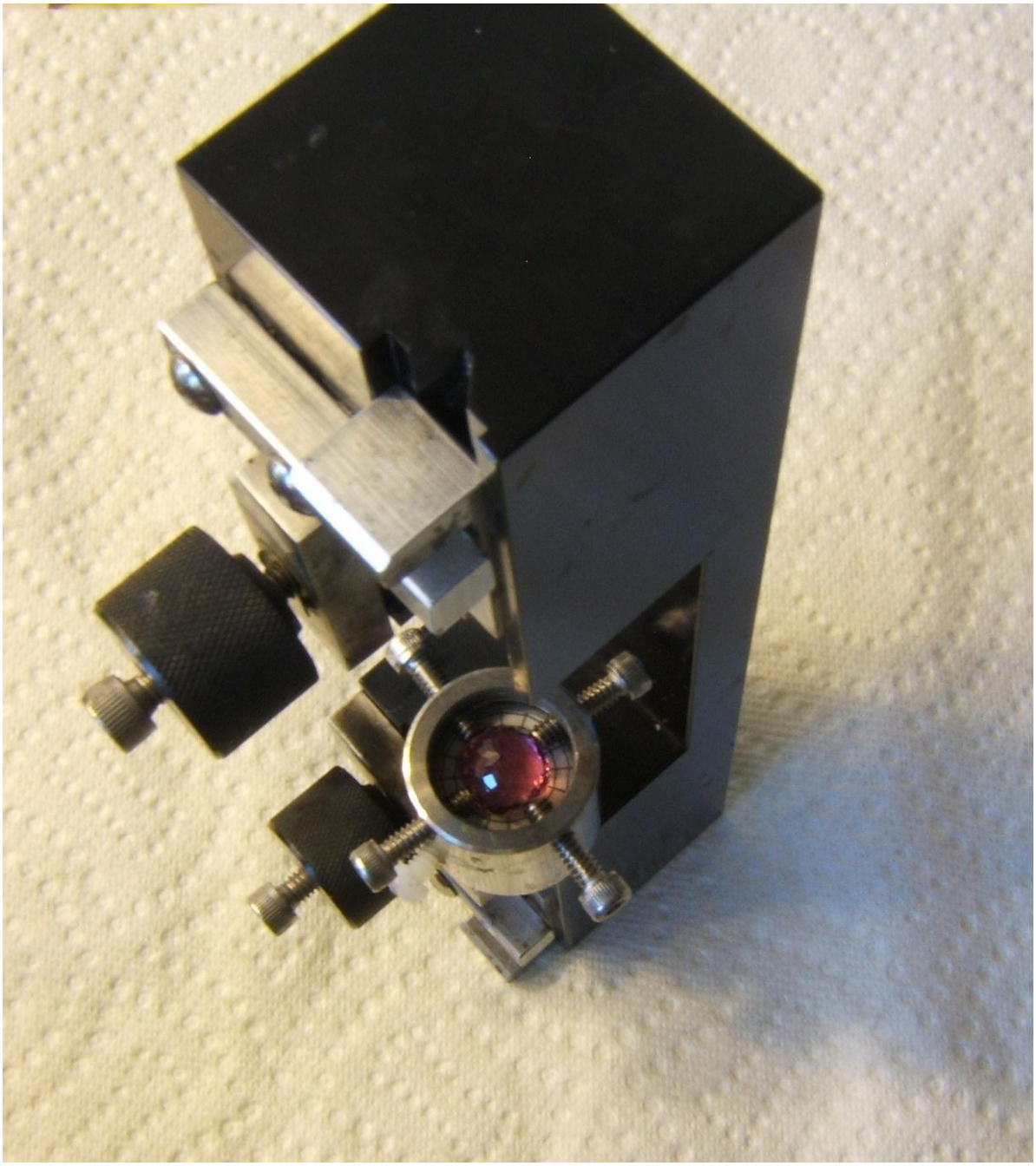
I use green low temperature wax. I know green wax is for cabbing and not meant for faceting. However, it perfectly works for me no matter what general information is going around.

Here are the things I use for dopping and releasing a stone.

-Rough/pre-form
-Dops
-Green dop wax
-Candle
-Isopropyl alcohol (rubbing alcohol from a drug store)
-Home-made shellac (shave a gram or so of dop wax, put in a small jar, add isopropyl alcohol just to cover the wax, cover the jar tightly and leave it overnight. You'll see green liquid and some sediment. The green liquid is the shellac.)
-Q-tips to apply the shellac
-Small pieces of paper towel (I cut a sheet into 12 pieces and use them for faceting in general.)
-Guiu dopper (This is a rough-centering device. I get excellent recovery using the dopper.)
-Transfer block
-Razor blade (I use it for removing excess wax.)
-Water in a spritz bottle

The following is how I dop. I am very visual to understand things. So I thought these pictures might help.

A windowed, native-cut tourmaline (10.2 mm wide x 10.8 mm long x 7.5 mm deep, 5.8 carats). I'll use this as a pre-form.



I usually hand-grind a flat on a rough that is parallel to the future table. If you use a native-cut stone, it is obvious. I carefully look at the rough to locate the future girdle outline. I place the rough on the Guiu dopper on the flat so that the center of the girdle outline is centered on the dopper. Secure the rough with the screws. Place a transfer block upright on a workbench. Set the Guiu dopper with the rough in the lower part of the transfer block.

Light a candle. Soften the wax over the candle flame and get some on a cone or V-dop. Set the V-dop in the upper part of the transfer block. Slide the rough and the wax on the V-dop touch each other. Carefully heat the V-dop on the flame pushing the dop until the wax grabs the rough. Don't heat the wax or rough, heat only the dop metal.

Set the transfer block upright with the dop side down. Carefully unscrew and remove the Guiu dopper. Now you see a rough with the flat on top. Apply the shellac with a Q-tip. Remove excess shellac with the other side of the Q-tip. Let it dry completely.

Now choose a flat dop appropriate for the rough size. Soften the wax over the candle flame and get some on the flat dop. Heat the dop to melt and adhere the wax on the dop and make the wax round on the dop. You should turn and rotate the dop to do this.

Set the flat dop in the upper part of the transfer block. Slide the flat dop and rough closer and get the rough and the round wax touch each other.

Heat the flat dop while pushing the dops gently until the wax melts and spreads on the rough. I don't hold the dops, I hold the transfer block. I rotate it to control the flow of melted wax while pushing the dops. The candle I use is one of those Buddhist supplies from an Asian market. Any

candle should work. You can use an alcohol lamp as well. The key is gentle flame, not that sharp flame from the torch.

The wax appears spread and flowing on the rough.

This is an adhesion test. **It is very important.** When the wax is room temperature in a few minutes, take out the dops and rough (it should be the rough with dops attached two opposite sides.) To test the adhesion, hold the rough with your fingers tightly and flick the flat dop with your finger on the other hand. Do it on a towel or something soft. Sometimes the dop comes off. Then dop again until it adheres the rough securely. If the dop comes off at this stage, the stone will fly during cutting anyway. If the rough passes this test, it can even withstand sawing with a trimsaw set on the platen on a faceting machine.

To remove the initial V-dop, wrap the rough with a small piece of wet paper towel, hold the rough with your fingers and heat the V-dop on the flame.

Only drawback of this method is soot from the flame gets on the dop and turns you fingers black.

But it can be washed at this time. It may look complicated but actually not. This whole thing takes less than 10 min.

You might have noticed I am basically transferring the rough to the flat dop. That is true. When I finish the pavilion, I do exactly the same except for using a cone dop. Don't forget to apply the shellac again. This transfer takes less than 5 min.

This is when the crown is finished.

Remove the dop by heating the dop metal.

This is when the stone is released. I usually remove most of the wax with a blade, but leave the wax on the culet tip so that the tip won't chip. Then I soak the stone in isopropyl alcohol.

The finished stone (9 mm diameter x 6 mm deep, 2.86 catats, 49.3% recovery)

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Best regards,
Mitch

PS: I am a slave to cutting a stone completely free of chips and very much enjoying it.