LECO Sectioning Saw SOP

Before using the Sectioning Saw, make sure you are wearing the proper personal protective equipment, including safety glasses and gloves. You may want to wear a lab coat, but be sure to keep the sleeves away from the parts of the sectioning saw.

1. Be sure to sign your name in the logbook on the counter and record the number of cuts in iLab.

2. Check the Maintenance Magnet on the front of the equipment to be sure the equipment is operational. If the magnet is green, you may use this equipment. If the magnet is red, this equipment needs maintenance and my not be used at the moment.

3. Check the pump sump box to be sure that there is enough coolant to circulate through the cooling system. If the coolant level is low, add D-I water using a beaker and the deionized water supply located at the sink.

4. Next, check to make sure that the blade you are using is appropriate for the material you will be cutting. If you need to change the blade, use the wrenches located in the lower cupboard next to the saw.

5. Secure the material to be cut with both clamps that are mounted on the sample platform. Only cut securely clamped items. Otherwise the part may move and cause the blade to bind and break. If the blade breaks, clean up any broken pieces and replace the blade. If your sample will not fit inside the saw, there are side plates that can be removed to accommodate your sample.

6. Next position the blade sprayers so that the coolant will be sprayed directly onto the blade during cutting.

7. Notice the wheel on the left side of the sample platform. This wheel moves your sample side to side. Set the position of the sample platform.

8. The wheel on the front of the saw moves the sample forwards and backwards. Move the sample away from the saw blade enough to be able to set the saw blade height. Secure the saw blade height by tightening the handle on the saw lever on the right side of the saw housing. Be sure that the saw blade is not yet touching the sample. You do not want the blade to be touching the sample when you turn on the power to the saw. Also be sure that the blade is low enough that it will cut completely through your sample but not cut any part of the platform or clamps.

9. Before closing the hood, be sure the coolant valve to the blade sprayers is open and the valve on the coolant hose closes. These valves are open when they are parallel to the hose and closed when they are perpendicular to it.

10. Now close the saw hood and turn on the main power switch.
11. Turn the coolant on and turn on the saw. The blade will now be rotating. Use the wheel at the front of the saw to move your sample into the saw. You should hear the sound of cutting steel. If you see sparks, STOP the saw and check the following:

Issue A: Be sure the coolant is hitting the saw blade adequately.

Issue B: The saw blade may need to be changed.

Issue C: The saw blade may not be correct for the material you are trying to cut.

12. If you don’t see sparks, continue to turn the wheel slowly to feed your sample into the turning saw blade. When the blade completes the cut, you will feel the sample give way and the cutting sound will change.

13. Turn off the saw and the coolant.

14. Open the saw hood, raise the saw, and remove your sample.

15. Close the valve at the blade sprayers and slightly open the valve on the coolant hose. Turn on the coolant and clean out the inside of the saw.

16. Close both coolant valves and turn off the coolant. Now turn off the main power.

It is very important to leave the saw hood open so that the saw dries properly. Closing the hood of a wet saw will lead to severe corrosion of the saw enclosure and eventual premature failure of the saw.