

Microwave drying of green wood.

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Wood turners like to cut wood right out of the forest and turn them into bowls, plates and the like. But since they start with green wood, there will be a lot of shrinkage and potential cracking before they get to a finished product. Traditionally they debark the wood and then rough turn the shape to an even thickness of about 1 inch all over. Then it would be buried in moist sawdust for up to a year to allow it to dry ever so slowly. Enter the era of microwave ovens. What does a microwave has to offer to this process? When you air dry a piece of wood, the outside surface gives off moisture to the air. It becomes dry, shrinks a bit and draws moisture from the core of the wood. If the drying is too fast, the outside shrinks while the inside is still swollen -- hence the cracks. The microwave causes the moisture molecules to vibrate throughout the piece of wood. This causes the moisture from the centre of the wood to heat up and migrate towards the outer edge where they can escape. So it is less a drying process than a forcing out of the moisture. This means that the action is from the centre outward -- with the whole piece shrinking at about the same rate -- hence less cracking. All of this applied to green wood is not yet quite a science. In fact it may never become a science because each piece of wood and each shape is so different, so experimentation is the order of the day. Thanks to the internet there is a lot of sharing of experiences with microwave drying and it appears that a consensus of how to proceed is developing. The recipe

Rough out your piece of green wood. Weigh and record the weight. Zap it in the microwave on defrost (50% power) for 2 minutes. Let it sit for 30 minutes to equalize moisture pressure throughout the wood. This is one cycle. Weigh and record the weight every 4 cycles. Continue until the weight does not change, meaning that there is no more significant moisture to drive out of the wood. It often takes 15 to 20 cycles to get the job done. 10 hours is a lot quicker than 18 months! Of course you are limited to works of art that are small enough to fit into your microwave. Tips: Too much power causes cracks. Not enough power won't drive out the moisture. Cooking too long at one time burns the wood. No, this doesn't hurt the oven. What hurts a microwave oven is to run it with no moisture in the oven, so running it on dry wood is not good for the oven. That is why you need to track the weight to know when it is done.

Keywords:

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