

Seasoning wood with the sun

We hear a lot about renewable energy and how we urgently need to cut back on fossil fuels to save the planet from self destructing. We all know the debate is wide ranging, and it's difficult to know what we can do as individuals which will have any real effect, particularly when we see our government doing very little. Well, for a woodland owner, a saw-miller or for a small furniture or joinery business or for someone who just enjoys woodcraft, using a wood kiln which is powered by Solar Energy is a very good start.

Why Kiln Dry wood?

If you have bought a piece of furniture recently, it is more than likely that the wood used to make it will have been "kiln dried" as part of the seasoning process. The idea of kiln drying is to make sure that the wood has the right amount of moisture within it to suit the environment where it will finally live.

We have all seen warped tables and cracked door panels. These defects are quite likely to be the result of too much moisture in the wood used to make the item. When brought into a heated house, drying occurs, and with this comes shrinkage, which shows as warping and cracking.

For Furniture Makers and Joiners the "Moisture Content" of the wood which they use is a constant headache. Their customers live in a range of environments; some turn the



heating up and live in near tropical conditions, with resulting "low" moisture contents, whilst others who like loads of fresh air leave their windows open in winter, and live in fairly "high" moisture content conditions. This is also not helped if their timber merchants aren't sure about the moisture content of their stock.

The problem is exacerbated for the wood craftsman who uses locally grown wood. Trying to find the planks of the right species which have been cut into the right size is difficult enough, but having found these planks, it is unlikely that the moisture content is right for the job in hand.

This is where the kiln comes in, to dry those valuable planks to the right moisture content to suit the customers living conditions. Kiln drying is a simple process whereby the planks of "wet" wood are placed in a heated chamber, which can be any size from 2 to 200 cubic meters in volume. The humidity in the chamber is gradually reduced from a level akin to a sauna, to a level near to that of a centrally heated house. At the end of this process, lasting a few weeks, the

planks should be at the right moisture content, and ready for use. But for a small woodworking business, conventional kilns can be expensive to buy, expensive to run, (normally using fossil fuels), and in some cases the performance is poor, so many try to manage without!

Drying wood in a Solar Kiln

After a lot of research we found an alternative type of kiln. *The Solar Kiln*. The idea of drying wood with solar energy is not new; in fact it has been around for about 40 years, mainly in the annals of Oxford and various American Universities. This research has enabled Solar Kilns to have been very effectively used in the tropics, but not much in temperate climates. I suppose too many people say that we don't get enough sun! But as converts to solar hot water systems will certify - This is not true!

This type of kiln has all the features which are needed to dry wood well, but at a fraction of the cost of a conventional "off the shelf" kiln. The energy to heat the chamber comes from the sun, so running costs are negligible. Since moisture is

removed from the planks slowly, the quality of drying in a Solar Kiln is as good, if not better, than the most sophisticated industrial types. The construction is simple, easiest to describe as similar to a green house, and a modest sized kiln will be able to supply a small furniture or joinery business with more wood than they can ever use.

But the main benefit to the wood user is removal of the uncertainty about the moisture content of the wood you are using. Whether it is bought from a timber merchant or from a local sawmill, there will be no more sleepless nights fretting about whether your latest commission, possibly a long awaited dining table, will warp and twist before your customer's eyes. You can now be fairly confident that the timber you used to make this piece was at the right moisture content to suit its final home. And, to boot, and for further peace of mind, you are doing your bit to save the planet!

If you would like to know more about Solar Kilns please contact me or visit my web site.

www.jonathan-guest.co.uk/solar-kiln.htm

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