



Kiln Clinic

Nov. 4-5, 2009. Tewksbury, MA

Experience drying logs and in particular basswood

- for use in cutting discs
- finishes require a certain MC, usually 20% or less.
- What do you mean/need for final MC
- disks should be well dried to preventing splitting
- cutting disks at an angle may reduce splitting problem
- some species more susceptible to bark falling off.
- picking species with less difference between radial and tangential shrinkage may help



Kiln Clinic

Nov. 4-5, 2009. Tewksbury, MA

Handling tiny orders for drying purposes

- Mixing and matching species i.e. species with similar drying characteristics
- Kiln loading practices need to be modified. Baffling needs to be modified.
- Sampling concerns. Use a moisture meter to monitor material. i.e. mixing partially air dried oak with other species
- Schedule selection for mixing species.
- Look at lowest DB and depression and see if it works for the range of material to be placed in the



Kiln Clinic

Nov. 4-5, 2009. Tewksbury, MA

More survival strategies? i.e cutting back on KD production

- Need to have a connection between log buyers and lumber sellers.
- Downside of just in time if market demand goes up suddenly.
- Keep in close touch with customers.
- Manage inventories to control moisture regain i.e. determine a safe storage time.
- Using unused kilns to store dry lumber (or heated buildings).



Kiln Clinic

Nov. 4-5, 2009. Tewksbury, MA

Stains in light colored wood i.e. pine, maple

- dips
- Drying schedules
- Concern when mixing species
- Rotating the log pile
- Watering the log pile
- Where are logs coming from? How long has they sit in the forest?;
- Green lumber storage concerns. Packing too much green lumber in yard can create staining conditions.



Kiln Clinic

Nov. 4-5, 2009. Tewksbury, MA

Final MC requirements. Is 6 to 8 % always necessary?

- Customers more likely to check MC
- Export market is usually about 10%
- If it is not going into a product that is glued together subsequent shrinkage is not a big issue
- Similarly moldings are not an issue for minor shrinkage
- Low density woods are more forgiving than higher density woods.
- Flat or oil finishes more forgiving for minor MC differences



Kiln Clinic

Nov. 4-5, 2009. Tewksbury, MA

Incidence of stain as related to climate changes

- Humidity levels and rain variations from year to year
- Under current market conditions there was probably less stain problems because material did not sit around
- Extending season for stain control
- Monitor wood temperature to determine when stain starts to become a concern. Wood temperatures of 50 F. or higher are a concern.
- Material wrapped in plastic can stain even under



Kiln Clinic

Nov. 4-5, 2009. Tewksbury, MA

How to protect unused kilns during cold conditions

- Direct-drive fans not as much of an issue as line-shaft.
- Keep just enough steam flowing through to prevent freezing.
- Crack open the drains on the condensate to keep some flow going.
- Longer term need to look at draining the system
- Different kiln types and kiln locations will have different needs.
- Keep snow off the roof if the kilns are to be down



Kiln Clinic

Nov. 4-5, 2009. Tewksbury, MA

Good storage program for partially pre-dried (approx. 50% MC) 8/4 oak.

- Wood will have a MC gradient with core still quite high
- Wood will still have potential to develop mold
- Keep kiln at an EMC of 12-15% to dry the shell sufficiently
- Get surface dry and then don't expose it to high RH (i.e. over 70%)



Kiln Clinic

Nov. 4-5, 2009. Tewksbury, MA

Preventing bunk stain

- Fluted bunks
- Put a fluted sticker on top of the bunk
- Put low grade boards on top of pile to protect it
- Keep bunks dry
- Different species will react differently
- Use air bags rather than bunks
-



Kiln Clinic

Nov. 4-5, 2009. Tewksbury, MA

Drying timbers for log cabins. What MC?

- Need to consider why it is being dried i.e. stain control vs. dimensional stability
- Log home council states that it be dried to 19% at 1/5th of the thickness. Consider how much is to be milled off after drying.
- A few days to dry the shell for stain control is sufficient.
- 3 months of air drying followed by kiln drying for 18 days (approx.) for 6x8 or 8x8.
- Phytosanitary requirements



Kiln Clinic

Nov. 4-5, 2009. Tewksbury, MA

Impact of re-drying on stress relief

- If wood is re-wetted (moisture from the air) and re-dried you may still need to do stress relief
- Solid-stacked material probably would not need re-conditioning
- Need to consider severity of re-drying conditions. Severe drying conditions may create more stress
- Get lumber up to temperature before turning on steam sprays



Kiln Clinic

Nov. 4-5, 2009. Tewksbury, MA

Re-drying wood that is solid-stacked and has re-gained some moisture

- If the wood has re-gained moisture as a solid stack, it should be possible to re-dry it in a solid stack.
- Need to consider if boards inside the load have re-gained moisture, in which case you will probably need to re-sticker it.
-



Kiln Clinic

Nov. 4-5, 2009. Tewksbury, MA

Accuracy of electronic meters (pin) at very high and very low ambient temperatures

- Variability of readings increases at higher temperatures.
- Correction factors exist for both very low and very high temperatures
- Change batteries regularly under cold conditions
- Wireless MC sensors do temperature compensation at the source and there are no wires with long lengths.
- Readings above 30 not reliable



Kiln Clinic

Nov. 4-5, 2009. Tewksbury, MA

Special measures for drying partial loads of lumber.
Placement of loads in the kiln.

- Fill the cross-section of the kiln
- Loading all material at back of kiln vs. loading one row at the back and another row at the front did not result in much difference in airflow
- Baffle the load so that the air has to go through the load



Kiln Clinic

Nov. 4-5, 2009. Tewksbury, MA

Schedules for exotic species for final drying in a vacuum kiln





Kiln Clinic

Nov. 4-5, 2009. Tewksbury, MA

Using Shade Dry on air dry lumber

-



Kiln Clinic

Nov. 4-5, 2009. Tewksbury, MA

How dry is too dry for machining purposes & is this affected by species?

- If it dry it's stiff, if it's stiff it's brittle, and will not machine well.
- 5% is getting close to being too dry
- 8% machines well
- baseball bats machined at 4% and less.
- lower MC, harder wood will dull the cutting tools faster
-