Kiln Samples
Selection and Use of Standard or Mixed loads
Why we have a kiln sample?

• To monitor the drying rates and conditions in the kiln
• Reduce degrade
• Obtain final desired MC
• Increase drying time
Selecting a kiln sample

A. Keep lumber variation a minimum if possible with these factors in mind:

1. Species- if drying multiply species get at least one sample of each (making sure that they are species that are compatible).
2. Thickness- if drying more than one thickness there should samples of each thickness taking more samples of the thicker stock.
3. Heartwood and Sapwood should be sampled.
4. Check the kiln charge prior to loading to see if the lumber is Quarter sawn or Flat sawn or both and make sure you get samples of each.
5. Moisture Content- try to get samples that represent the air drying time in the yard or if the lumber is freshly sawn (try and get the wettest sample).
Check thickness and make sure you get a sample that represents the whole load
2.

- B. What you do not want to have in your samples
  - 1. Bark
    - a. will cause inaccurate drying rates
    - b. when doing your oven test, the bark tends to fall off giving you false initial MC’s
  - 2. Knots (loose knots may fall giving you false MC’s)
  - 3. Decay (unless these items represent your load).
3.

- C. Best time to get your samples is prior to loading the kiln
- 1. ease of obtaining the sample
- 2. get a better view of what you are drying
Cutting a kiln sample

• We cut 2’ from the end of the board
• We cut a sample 3’ long (quickly applying end sealer)
• With a lumber crayon
  • 1. write the lot # the sample can from
  • 2. write the sample #
  • 3. write which kiln its going into and the date
  • 4. when obtained initial weight and MC
Number of samples

• In our 25,000 bd/ft kilns we use 4 physical sample
• In our 40,000 bd/ft kilns we use 5
• In our 60,000 bd/ft kilns we use 6
But you never can have to many samples

- Use more when
  - 1. drying a new species
  - 2. experimenting with a new schedule
  - 3. wide variation in initial MC readings
  - 4. drying multiply species in the same charge
Placement of your samples

• It is important to place your samples in a place that best represents the way the rest of the kiln charge is drying.

• 1. try not to dry stack your sample on top of a stack of wood

• 2. don’t leave your sample leaning up against the back wall
Best places for your samples

• When initially cutting your sample place back into the stack (making sure that you can get at it when in the kiln)
• Another way is to make a “sample basket”
• Whatever method you use for placement of your samples make sure you put them back in the same place everyday.
Sample basket
Stack samples

Stack sample  Stack sample
Keep your samples to the end

• 1. Need them for intermediate moisture test
• 2. Final moisture tests and stress tests
Make sure you get a second and third opinion