

Container Lumber Dry Kiln Plans 15,000 BF

The 15,000 BF container kiln consists of two 40 foot high-cube aluminum shipping containers side by side, or two refrigerated vans (already insulated). The first kiln built in 1992 was a 15,000 BF size and worked great.

This first container kiln had several innovations, including the use of a direct fired heat pipe (Furnace Type Dry Kiln) and a Conifer sawdust burner.

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Dry Kiln Schedules for Commercial Woods Temperate and Tropical

The original and the best General Technical Report FPL GTR 57 from the Forest Products Lab here in Madison, Wisconsin. USDA Forest Service.

This report contains suggested dry kiln schedules for over 500 commercial woods, both temperate and tropical. Kiln schedules are completely assembled and written out for easy use.

Schedules for several thicknesses and specialty products (e.g. squares, handle stock, gunstock blanks) are given for many species.

The majority of the schedules are from the world literature, with emphasis on U.S., Canadian, and British publications. Revised schedules have been suggested for western U.S. and Canadian softwoods and for the U.S. southern pines. Current thinking on high temperature drying (temperatures exceeding 212 F) schedules for both softwoods and hardwoods is reflected in suggested high-temperature schedules for selected species.

Keywords: Lumber drying, hardwoods, softwoods, kiln drying, conventional temperature (< 180 F) schedules, elevated-temperature (180 to 212 F) schedules, high temperature (>212 F) schedules, tropical woods, temperate woods.

Central Boiler

The Central Boiler is an outstanding wood fired boiler for homes and container dry kilns.

Furnace Type Lumber Dry Kiln 1945

From the USDA in 1945 (yes, you read right). We've tried these heat pipe kilns and they work great. In the more modern version, we used a Conifer sawdust burner to direct fire heat into a large diameter stainless steel pipe in the top section of the kiln, where the fans circulate the airflow over the pipe to heat the kiln. The fans always stay on (especially when the direct fire burner is operating).

The basic concept is to have the output of the biomass burner go directly into a heat pipe. Just think of a long horizontal steel chimney that heats the kiln.

You can also use propane or natural gas burners to do the same thing. All the gases are contained within the steel pipe, so it reduces the change of any flammability issues.

The Conifer Sawdust Burner

The Conifer has been around for a long time. We build one from a kit in 1992 for our original 15,000 BF kiln, here in Madison, Wisconsin (sold to a customer in Michigan).

The kit was basically cast iron plates which were assembled with poured ceramic material and ceramic fire bricks. The Conifer is great for direct-fired kilns and sawdust burners which exit into biomass boilers or long stainless steel pipes (see Forest Products Lab Furnace Type Kiln).
