

Repurposing Shipping Containers and Refrigerated Vans for Dry Kilns:

Containers and Vans have been used successfully in shipping since 1954 in all the regions and over all the seas in the world. They are used in the harshest of sunlight and the worst of hurricanes. When they fall off of ships, they can float for literally years.

After containers have been used for many years, they get cycled off of ships and get sold. Prices range from \$800 for a 20 ft. container to \$2,500 for a 40 ft. container. They make perfect kiln chambers.ship

Chamber: the doors on containers come with a replaceable rubber gasket which gives them an incredibly airtight seal.

Heat Pipe Prior Install

Stainless heat pipe prior installation into top of container.

Insulated or Un-insulated: The un-insulated containers cost less, but require a 2 inch thick rigid insulation to be installed on the inside. This can be accomplished just like putting up drywall and can be covered with 1/2 to 3/4 inch tongue and groove plywood for extra durability.

No Foundation Required: Containers are meant to be stacked up to 10-15 high, which means they are very rugged on the bottom and four corners of the container. They can be placed on gravel, pavement, a concrete pad, or even simple timbers or ties. Because they do not require a foundation, a great deal of money and site preparation time can be saved.

Durability: Steel or Aluminum skinned containers work perfect as kiln chambers. The end posts on containers are always made from very thick steel. The walls and top are made from 1/8 inch steel or aluminum sheets. Every 12 to 16 inches are "U" or "C" channel stock which provides support for the skin. The bottom of the container is made up of "I" beams. A wooden floor of Paudak or Plywood covers the "I" beams.

Longevity: While the useful life of a container may be up for shipping, they make perfect kiln chambers. We have a customer in Texas who runs his 40' long container as a high-temp Southern Yellow Pine timber dryer, and they have been running continuously since 1994. The rigid insulation on the inside is still in very good condition. Most kilns will operate in a temperature range of 120-180 degrees F. They operate their kiln routinely above 200 degrees F. Kiln motors are fine running inside at temps up to 180 degrees F, but any more than that the motors will need to be moved to the outside.

Versatility: Because of the containers size, multiple container kilns can dry multiple species of lumber, sizes, time schedules, or contracts. You may stagger loads so that kiln dried lumber is continually becoming available at various times of the month, instead of all at once as is the case with larger kilns. Containers can be used as kilns for lumber for one schedule, firewood for the next charge, and timbers for another.

Summary: Shipping containers and refrigerated vans make great dry kiln chambers. Hi-cube containers offer more flexibility for top mounted fan racks. Insulated containers can save you time insulating the chambers. If you are building a high temperature kiln, double check on the materials to make sure they can tolerate a hot and humid interior.

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