THE QUEST FOR THE PERFECT KILN

Twenty-four years ago, Tom Koetter, founder of Koetter Woodworking, set out on a quest to find the perfect lumber drying kiln. After many years of searching, and no success, he finally decided to build his own. Tom's "kinder, gentler method" of lumber drying dramatically reduced the lumber's degrade and maintained the time parameters of conventional kiln schedules. The method was so effective that he assisted his son Rick Koetter in establishing Koetter Dry Kiln, Inc. and started to manufacture the Kilns for woodworkers with a variety of lumber drying needs.

Koetter Dry Kiln, Inc. is now Nova Dry Kiln. Nova is currently a global provider of unique wood drying solutions. Tom's original method has been enhanced over the years, but the foundation of his invention is still used to dry 20 million board feet per year for Koetter Woodworking alone.

Nova Dry Kiln provides wood drying kilns that exceed industry standards and achieve the best short-term and long-term financial results for our clients. Our Kilns are of the highest quality, longevity, and operational economy, plus they are the simplest to use. We also provide superior customer service and technical support to ensure the long life of our Kilns. Our method of wood drying is often contested by our competition, but year after year, we surpass expectations in cost-efficiency and revenues.

KILN CONFIGURATION:

1. The recommended drying schedules for our kilns utilize a chamber temperature of 90ºF to 140ºF. The chamber temperature can go as high as 160ºF for the purpose of setting the pitch in softwoods.

2. Moisture is removed from the chamber using our unique Single or Dual Powered Variable Exhaust System which used in conjunction with our schedules, constantly vents throughout the drying process. This system accurately controls relative humidity levels in the chamber over a broad range.

3. Chamber air circulation velocities combined with calibrated constant venting provide the proper amount of heat transfer and yet maintain the ability to remove moisture from the surface of the lumber quickly and with very low stress to the wood fiber.

4. 1/8" aluminum used in conjunction with our sturdy highly insulated SIP panels makes for a very rigid sidewall construction impervious to damage by lumber packets and forklifts.

5. A small vacuum or negative pressure resides in 80% of the chamber that helps to draw moisture from the lumber and assists with the compression of seals and gaskets making for a tight kiln. This feature reduces maintenance requirements.

6. Using hot water as the energy source for our kilns makes for a lower maintenance higher reliability heating system that does not require meeting any regulatory hurdles.

7. A tarpaulin adjustable plenum system assures dry airflow through the lumber pack and not around it increasing thermal efficiency and decreasing drying time.

NOVA
DRY KILN, LLC
500 Bergman Street • Louisville, KY 40203
502-409-4539 (v) • 502-409-4560 (f)
www.novadrykiln.com

DESIGNED FOR WOODWORKERS, BY WOODWORKERS.

STEPS TO SUCCESSFUL LUMBER DRYING

NOVA
DRY KILN, LLC
500 Bergman Street • Louisville, KY 40203
502-409-4539 (v) • 502-409-4560 (f)
www.novadrykiln.com

Nova Dry Kiln provides an official drying manual and technical support for every kiln sold. The simple to use procedures are formulated to achieve the best economic results and yet provide the flexibility most kiln operators require for their unique drying demands. To achieve these results, we have defined certain steps that insure our customers of consistently meeting and exceeding high standards in dried lumber.

1 PRECONDITIONING

This optional initial step is used primarily for well air dried stock or mixtures of green and dry lumber. Preconditioning helps to decrease the moisture difference that can occur in different locations throughout the lumber stack. Our remedy is to load the chamber, then heat it to 110ºF for a predetermined time at a low exhaust setting. This allows the transfer of moisture from high concentration locations to low concentration locations within each packet of lumber.

2 DRYING

The primary process variables of concern during the drying process are dry bulb temperature and wet bulb depression. Wet bulb depression correlates to the amount of moisture in the air, which in turn correlates to the equilibrium moisture content of the lumber. This parameter tells us something about how quickly the lumber is giving off moisture. By controlling these two process variables in a very precise manner, we can use a pre-selected schedule to achieve the desired end results. The kiln operator adjusts the dry bulb temperature setting and the rate at which moist air is exhausted from the chamber. The steps are executed sequentially.

3 CONDITIONING

Nova Dry Kiln's approach to conditioning does not involve the reintroduction of moisture to the chamber. Instead, we trap the moisture that resides in the core of the wood and provide enough time for the lumber moisture gradient to equilibrate. Adding water in the form of steam has traditionally been done to reverse or lessen the effects of lumber case hardening. Since our drying methodology does not yield case hardened lumber, additional moisture is not needed. The lumber equilibrates from the core out in this stage.