

# HEAT TREATMENT EQUIPMENT CHECKLIST

If you plan to buy a heat treatment system, the following checklist presents some key points to ponder when evaluating various technologies.

## 1.) What capacity will you need?

Start with this question first. The number of pallets that you want to treat per day will help you determine the size of the chamber needed to meet your demand. If you only want to treat a limited number of pallets per week, one of the less expensive, smaller options may work well. For larger volumes, a sizeable dry kiln-like system may be the best fit.

## 2.) Weather – Frozen Lumber or Moldy Pallets?

Mother Nature can actively work to sabotage your treatment system. Cold weather environments lower the temperature of the lumber, which increases the energy and time needed to treat the pallet. "Less expensive heat treatment methods make me a little nervous when it comes to the frozen wood issue," said Asher. He prefers a system run on steam because it will help deal with the harsh Michigan winters. In warmer environments, moisture can cause a mold problem if the pallet is not dried.

## 3.) Loading and Unloading Method

Some systems are designed to be loaded and unloaded by a lift truck driving directly inside the chamber. Others require pallets to be pre-loaded onto a dolly first. The dolly sits on a track and is pushed into the chamber. The dolly approach can add extra handling costs due to the fact that most loads of pallets are moved around the plant on forklifts.

## 4.) Energy Source

Energy sources vary from wood chips to natural gas to liquid propane. Cheaper fuel sources, such as wood chips, require more up-front cost due to the need to install a boiler. In the long run, a company saves money, especially if more expensive fuel sources start to rise in price.

## 5.) The Need for Speed

How long it takes to treat a load of pallets is a major factor for those looking to treat high volumes. A number of factors such as the size and insulation of the container as well as the weather can impact the heat transfer rate.

## 6.) Staging/Logistics

Depending on the capacity of your treatment chamber, the layout of your plant and the volume of heat-treated pallets required by your customers, timing could be critical. Some pallet companies are concerned about scheduling

problems as customers make a run on treated pallets. Consider how you will stage your pallets, where you will store them after treatment, etc. The last thing you want is a logistics nightmare in your plant.

## 7.) Dry or Just Heat?

You can buy a system that will only heat the pallet/lumber or will heat and dry it at the same time. Chambers that do both cost more, but they offer greater flexibility. Why would a customer want a dry pallet? Dry pallets weigh less, easing ergonomic concerns. Plus, moisture removal reduces the threat of mold or water damage to products shipped on the pallet. The ability to regulate humidity in the air also affects lumber quality.

## 8.) Environmental Concerns

In some areas of the country, local governments may require a detailed permit process to install a boiler. Check with the local government to find out how cumbersome the process can be. Clean air regulations have made it difficult for even paper companies to burn their wood waste in some states.

## 9.) Construction

Consider how durable the chamber will be. How thick are the walls? Does the system provide adequate air flow to ensure proper treatment levels in all areas of the chamber? Factor into your decision the probable lifespan of the treatment system. Asher said, "I want something that is not going to fall apart before it depreciates."

Forklifts can cause damage, especially if a chamber is poorly built. Kilns have raised, con-

crete bases, which will take a beating over time.

## 10.) Price

Everything usually comes down to price at one point or another. But remember that total cost is not necessarily the same as the lowest sticker price. Focus on the lowest treatment cost per pallet. The less expensive option may or may not be more expensive than you think. Consider how long the system will last.

The larger volume, dry kiln costs more than the small box systems. Kilns require concrete work, boilers, piping, pumps, and other incidentals, which can add big bucks to the cost of a system.

## 11.) Lumber Degradation

Many of the commercially available options will dry and/or heat pallets and lumber without causing any real lumber damage, even in hardwoods, if managed properly. However, it is not as simple as throwing in a load of pallets and turning on the timer. "If a heat treatment chamber is setup wrong, you can ruin your pallets," said Mark.

## 12.) Reputation

Whatever you plan to buy, go and visit a system working in the field. Talk with others in the industry to see what they have decided to do. Consider the reputation of the system provider and how long it has been in business. Asher said, "I went with a company that has been in business for 30 years not a me-to addition."

Discuss the system you want to buy with your certification agency. A little more research now can save you a major headache later.



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