

## Before making furniture, why we have to dry and insecticidal wood material?

Wood drying means volatilize the moisture in the wood by natural methods or artificial methods, making it drop to the standard which meet requirement, avoiding insect and bacterial corrosion or cracking, deformation of wood, improving product quality, adding the working life of the woods.

Just like man, wood has its own temper. Drying too much, the wood will lose its vitality. Drying less or uneven, the wood will suffer the pain from that. So only drying wood properly, can they work efficiently as you need.

Commonly used drying methods include artificial drying, natural drying, and microwave drying - wood microwave drying insecticidal equipment.

[Leader Microwave Equipment Company](#) Drying methods:



1. Artificial drying: The wood is sealed in a steam drying chamber, and steam is used to promote evaporation of water to dry the wood. (According to the size and thickness of the wood, such as 4cm plate drying time usually takes 1 week), the degree of drying can make the wood moisture content only up to 3%, but the wood is brittle and the toughness is easily destroyed after evaporation at high temperature.

It is not beneficial to hand carve. Generally, the degree of wood drying should be maintained at about 30% of water content.

2. Natural drying: The wood is placed in a ventilated place (plate, square or log), placed in a raft, and the bottom of the raft is about 60cm away from the ground, leaving a gap in the middle to allow air to circulate, bring away moisture, and the wood gradually dries. Natural drying usually takes several years or months to achieve certain drying standards.

3. Microwave drying: Microwave wood dryer is mainly used for solid wood flooring, composite flooring, mahogany furniture, veneer, solid wood door, woodcarving crafts, wood products, etc. Thickness is 1.5cm~5cm, water content is more than 25% dry to 8%.

It can be used for drying various of wood, and can solve the cracking, deformation, incomplete drying and insects problems. In the microwave drying process, the eggs and larvae inside are also killed.



### **The working theory of wood microwave drying and insecticidal equipment:**

After entering the machine and equipment, the wood is converted into energy by the magnetron, and the uniform microwave field of the machine makes the wood generate heat, which can remove the temperature gradient and water content gradient during the drying process.

The overall temperature of the wood is consistent. The moisture is discharged from the inside to the outside to make the expansion and contraction coefficient of the wood substantially the same, so that the wood can limit the deformation, cracking, drying, carbonization and other damages during the drying process, and could improve the wood yield.



### **Features of wood microwave drying and insecticidal equipment:**

#### **1. Fast drying speed and resource saving:**

Microwave wood dryer is the overall heat generation of wood itself, no thermal inertia, no heat transmission loss, more than 50% energy saving than traditional heating method, drying speed is more than 10 times faster than traditional heating method, generally can be finished during 2-3 hours.

#### **2. The stereotype modification effect is good:**

The dried wood by microwave drying equipment can completely eliminate the adaptability of wood, and the wood products produced are not easy to deform and crack, which can improve the quality of wood products. It can maintain the original shape of the wood, does not deform, does not crack, and does not destroy the wood.

### 3. The insecticidal sterilization effect is good:

Microwave wood insecticidal dryers are not prone to mildew during the process of drying wood, and can completely eradicate all kinds of insects and eliminate woody insect pests.

Microwave wood dryer products can also be used as other tunnel wood drying equipment, which is very suitable for wood with initial moisture content of 28%, dry to wood moisture content of 10%-8%, which can dry wood in a short period of time. It can also dry and sterilize wooden handicrafts, decorations and their unique specifications.

### 4. Keep the original color of the wood:

Wood microwave drying and sterilizing equipment does not change the original color of wood, and other traditional heating methods are used to dry wood. The common phenomenon is that the color is deepened, and some yellow and black, lowering the wooden handicrafts. The same kind of wood has a big color difference in price for the sake of the color.

### **Summary :**

According to the estimation of relevant experts, the annual drying capacity of China's existing equipment is about 4 million cubic meters, which accounts for only about 17% of sawn timber to be dried in 2000, while the drying equipment capacity of the developed countries can reach 30% of the required drying capacity. The United States is as high as 60%.

This shows that the capacity of China's drying equipment is far from that of developed countries and medium-developed countries. It also shows that the development potential of China's wood drying industry and the market for wood dryers are very large.

The wood microwave drying insecticidal equipment can just meet the drying of a variety of woods, and can solve common wood problems like cracking, deformation, incomplete drying and insects. Moreover, insects larvae and eggs inside woods are also killed during the drying process.