



UK OAK DOORS

How to

# Curve or Bend Wood

## If you want to soften or plasticize wood, there are two methods that you can use.

**Steaming** is a popular method for bending wood for making chair parts or staircase banisters, and is also sometimes used to make canoes, baskets, and musical instruments.

**Kerfing**, on the other hand involves making a series of cuts into the wood to make the wood easier to bend. Kerfing weakens the wood but is often used for decorative purposes.

### How to Steam Wood

The best wood to work with, when it comes to steaming, is wood that already has a fairly good moisture content. Choose a hardwood over a soft wood. If the wood is not already moist, then you should pre-soak it. Woods that are damp cope better with heat transfer.



Wood is steamed in a steam box, which is connected to a steam generator using a hose. A steam box can be made from either wood or PVC, and must be big enough to accommodate the entire piece of wood to be steamed. Large boxes have racks inside them to support the wood. The box is almost completely airtight, but there must be a couple of small holes to allow some of the steam to escape.

It is possible to make a DIY steam generator using a simple kettle, but there are specialist products that can be purchased for the purpose as well. If you are making a DIY steam generator, make sure that the hose fits over the end of the kettle tightly, and is properly secured. If the flow of steam keeps getting interrupted then it will ruin the heating process. Take great care when handling the steam generator – do not allow any steam to touch your skin, because it can cause severe burns.

On average, it takes one hour of steaming per inch of wood that you are treating. You should aim to heat the wood up to 212 degrees Fahrenheit. This will use a lot more water than you think, so you should pay close attention to the level of water in the steam generator.

Once the wood has reached the desired temperature, and been steamed for long enough, place it on a bending clamp, secure it in place with straps, and start work on bending it. Start the bending process immediately before the wood begins to cool. Work from one end to the other, slowly and carefully. Once the wood is bent into the desired shape, secure it like that and leave it to cool and settle for 24 hours.

## How to Bend Wood with Kerf Cutting

The term “kerf” refers to the width of the teeth in a saw blade. When you are cutting wood you have to take into account the width of the teeth because there will be a gap left of that width. Kerf cutting involves making very deep cuts into a piece of wood so that it is easier to bend. You have to cut almost all the way through the wood, and make several cuts that are quite close together to make the wood malleable.

Once you have made the cuts, you can try to bend the wood. The wood should bend in much the same way as a straw bends. If it does not want to bend, or feels like it may snap, then you have not cut into each kerf deeply enough. Bend the wood so that the kerf cuts are on the inside of the curve. The spaces created by the kerf cuts will close when the wood is bent.



## Some Final Tips

When choosing wood for steaming, try to select pieces with a straight grain. Cross-grained wood is more likely to crack. Greenwoods are a popular choice, although white oak, red oak and hackberry bend well too. Soak the wood for at least a day before you treat it.

Kerf cutting is labour intensive and requires careful concentration. Use a sharp saw and work slowly and methodically. Check the cuts regularly so that you don't accidentally cut all the way through the wood. Use a wide saw for a steep angle, or a narrower saw for more gentle bends.

For both kerf cutting and steaming, it is a good idea to try the process on some test pieces of wood so that you get used to how long to treat the wood, or how deep to make the cuts in the case of kerf cutting. If the wood cracks, then you know you need to steam it for longer, or make more cuts.

