



## CARE & CLEANING OF BIRCH BARK

Native Americans have long recognized the special uses to which birch bark could be put. They had many uses for the outer bark of white (or paper) birch for canoe construction and wigwam coverings as well as many of their daily implements and vessels. There is solid evidence that as far back 3000 years ago, bark containers were used to store, cook and consume food products. Birch bark lent itself well to making hunting and fishing gear that would stand up to harsh conditions and treatment. It was also used in the decorative arts and musical instruments.

Today our houses are made from plywood, our canoes from Kevlar and our food containers from plastic. Birch bark has been relegated to ceremonial and decorative uses. Most of us have little idea about the properties of birch and how to care for it.

### General Information

The wood and bark of a tree is composed primarily of cellulose and a structural polymer known as lignin, with minor amounts of waxes and oils. The proportion of lignin in both the wood and the bark varies widely from one type of tree to another but, because the bark of a tree acts as a protective coating, you generally find more lignin in the bark of a tree than in its wood. Birch wood and birch bark contain higher levels of lignin than most other types of wood.

Wood that has been recently cut is called "wet" or "green" and typically takes six months to a year to dry out. As the wood releases its moisture, the wood will shrink slightly and change shape. This natural seasoning process may create thin cracks, or "checks", in the wood. These checks run along the grain of the wood but can easily be seen on the end face (see photo for an extreme example). The checks radiate out from the core of the wood, crossing the growth rings. As the wood ages this process will stop, and new cracks are unlikely to form unless the wood is exposed to extremely high or low humidity. Even after wood dries, it will still absorb and lose moisture, expanding and contracting with the changes in temperature and humidity.



Birch bark is composed of many thin sheets or layers, which are bonded together. When these layers expand and contract at different rates, the bark will curl. This curling won't happen if the bark remains wrapped around its wood but if flat birch-bark is dried too quickly it will curl up into a tight coil. If it is prevented from curling the resulting stress can cause it to split.

## Fungi, Mold and Mildew

Any wood can be affected by fungi, mold and mildew but because its bark is such an effective moisture barrier, the moist inner wood of the birch is especially vulnerable. It's very important to allow birch to breathe so it can acclimate itself to the temperature and humidity of its environs. Never wrap or store birch in plastic.

When fungus infects wood, it causes a unique pattern of dark lines and discoloration known as 'spalting'. Experts think that the fungus enters the wood at or near an injury area such as a bird pecking, a driven nail, storm damage or whatever else can penetrate the tree's bark. The tree reacts to this injury and it's that reaction along with the presence of the specific fungi that causes this coloration. Here is a picture of a cross section of birch showing the spalting. This particular piece of wood is now dry and so the spalting has stabilized.

The final picture shows a lidded box and a small cup I turned on my lathe. These spalted pieces show very clearly the wonderful and unique black web lines that run with the grain. Spalted wood, especially birch and maple, is prized by many woodworkers.



## Cleaning

Because they are highly porous, wood and birch bark will readily absorb the oil from your hands when they are touched. If handled frequently, this can result in staining that is difficult to remove. Birch bark can also darken or yellow if exposed to sunlight for extended periods.

In nature, birch bark is a protective shell protecting the wood cells that deliver water from the roots to the leaves. It therefore probably exhibits signs of abuse in the form of scrapes, gouges, cracks, peeling, dirt and stains. Many people appreciate the rustic charm of birch bark in this natural state. Others would prefer clean white bark with no peeling. You have to decide if you want to clean your birch bark and if so, how aggressively.

To clean your birch bark, start by dusting it lightly with a soft brush. Loose or peeling bark might come off if brushed firmly. Avoid using water to clean these items, as it may stain or cause them to swell up and then crack when dried. A fast drying solvent such as alcohol or acetone will work well to remove oily or greasy deposits such as those left by hands.

If the outermost layer of bark is extremely damaged you might decide to remove it, exposing a clean layer. I've had success doing this by rubbing a gum eraser over it. If the eraser doesn't work, a more aggressive technique is to apply duct tape and slowly peel it off, taking the top layer of bark with it.