

Forest Products

Trees can be used to make over 5,000 different products. Some of the products obviously come from trees, such as lumber. Some products, such as turpentine, are less obviously linked to trees.

Many of the more than 5,000 products can be found in our homes. This publication describes a few of the more common products and how they are used.

Lumber

Lumber is by far the most commonly recognized tree product. Lumber creates most of the structure of our homes. We may not see it, but it holds up the walls, roof, and floor.

Sawmills saw logs into standard sizes (often 2 inches by 4 inches, 2 inches by 6 inches, and 2 inches by 10 inches) to create lumber.



Image 1. A bundle of lumber produced at a sawmill before shipping to a lumberyard for sale to consumers.

Poles

Poles help hold up the wires and cables that transport phone signals, power, and Internet. They keep the wires safely out of the way, so we don't have to worry about being shocked or electrocuted. Their low cost helps keep our utility bills low.

Poles are created by peeling the bark from the tree, drying most of the water out of the wood, and then treating it with a chemical to fight off insects and decay.



Image 2. Poles in a treating cylinder after being treated with a chemical.

Plywood

Plywood is used as subflooring and as the base of the exterior walls of many homes. It is also the sheathing that roof shingles are nailed to.

It is created by peeling logs into long sheets of veneer. These sheets are then glued back together so they create a large, flat sheet of wood that is stronger than the individual veneers.



Image 3. The layers of three different thicknesses of plywood.

OSB

Oriented Strand Board, or OSB, is used for many of the same applications as plywood. The major difference is that OSB is created from wood flakes instead of veneer and is less expensive to produce.



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Logs are turned into flakes using a special flaker machine. The flakes are then pressed into a form in a precise pattern that adds strength.



Image 4. A typical piece of OSB.

Particle Board

Particle board, or chip board, is not as strong as OSB and plywood are and is largely used to make furniture and cabinets. Because of shortages of plywood during World War II, particle board was created as a substitute.

The wood particles in particle board are manufactured by chipping wood or using residues from sawmilling. The particles are blended with glue, or resin, and pressed together.



Image 5. The end of a piece of particle board; notice the individual particles.

Fiber Board

Fiber board is made into a variety of products composed of wood fibers. Fiber board is used in furniture, shipping containers, siding, cabinets, and shelving. It is one of the most diverse forest products because it is used in many different projects.

The wood fibers for fiber board production are separated by a machine called a defibrator. These fibers are then dried and mixed with wax and resins. They are formed into a mat and pressed together.



Image 6. The face of a piece of fiber board.

Paper

Paper has been manufactured for over 5,000 years in various forms. Early papers were made from papyrus, not wood. Most paper today is made from wood and can be as soft as facial tissues or as strong as paper shopping bags.

Paper is manufactured through a process that pulps wood, removing most of the extra material and leaving the fibers. These fibers are then suspended in water and formed into mats.

The mats are dried under applied heat and pressure to form paper. Most paper is held together without an adhesive but rather by the natural characteristics of the wood fibers responding to high application of heat and pressure.



Image 7. Several different types of paper commonly used.

Chemicals

Wood is a storehouse of chemicals that we use every day. Products such as toothpaste contain a thickener that is derived from wood. Imitation vanilla comes from wood, along with many other flavorings. Most chemicals are byproducts of paper-making.



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