

GreenWorks™

by SurfaceWorks®

Specification Bulletin:

Bamboo

Hardy, Resilient plant

Bamboo is not a tree, it is a giant grass. When bamboo is harvested, the root system is unharmed and healthy, ready to produce more shoots, just like a grass lawn. There are 1500 species of bamboo on the earth; this diversity makes bamboo adaptable to many environments. With one of the widest ranging habitats, bamboo thrives in diverse terrain from sea level to 12,000 feet, can tolerate extremes of precipitation, from 30-250 inches of annual rainfall. Bamboo is found on every continent except Antarctica.

Rapidly Renewable Resource

Clocked shooting skyward at 2 inches per hour, Bamboo is the fastest growing plant. Some species grow over four feet per day. In one three month spurt, bamboo shoots reach their full diameter and height, more than 60 feet high. In three years poles mature into dense, hard bamboo. When bamboo poles reach peak strength and hardness they can be harvested every year and will grow new shoots for as many as 75 years.

Bamboo is the fastest growing canopy for the regreening degraded lands. It is a pioneering plant and can be grown in soil damaged by overgrazing and poor agriculture. Proper harvesting does not kill the bamboo plant, so topsoil is held in place. Because of its dense litter on the forest floor it feeds topsoil, restoring healthy agricultural lands for generations to come.

Timber Bamboo can be harvested in 7 years versus 10-50 years for softwoods and hardwoods, yielding up to 20 times more timber than wood. One bamboo clump can produce 200 poles in the five years it takes one tree to reach maturity. With 10-30% annual increase in biomass versus 2-5% for trees, bamboo can yield 20 times more timber than trees on the same area. Bamboo can be sustainably harvested and replenished with virtually no impact to the environment.

Oxygen Production

Bamboo generates 30% more oxygen than a hardwood forest of the same size. It helps reduce carbon dioxide gases responsible for global warming. Some bamboo sequesters up to 12 tons of carbon dioxide per hectare. Bamboo can also lower light intensity and protects against ultraviolet rays.

Strength and Durability

With a tensile strength superior to mild steel (withstands up to 52,000 Pounds of pressure psi) and a weight-to-strength ratio surpassing that of graphite, bamboo is the strongest growing woody plant on earth. Natural Bamboo has a hardness equivalent to Northern hard maple.

Erosion Control and Water Treatment

Bamboo is an exquisite component of landscape design, it provides shade, wind break, acoustical barriers, and aesthetic beauty. while improving watersheds, preventing erosion, restoring soil, Because of its wide spread root system and large canopy, bamboo greatly reduces rain run off, prevents massive soil erosion and keeps twice as much water in the watershed. A peerless erosion control agent, it's net like root system create an effective mechanism for watershed protection, stitching the soil together along fragile riverbanks, deforested areas, and in places prone to mud slides.

A Bamboo Forest is an ecological wastewater utilization system that essentially grows away waste, producing a marketable crop in the process. Damaging polluting components are transformed into plant nutrients. Bamboo helps mitigate water pollution due to its high nitrogen consumption, making it a solution for excess nutrient uptake of waste water from manufacturing, livestock farming and sewage treatment.

Uses for Bamboo

Our biosphere is suffering from resource depletion, habitat loss, species extinction and ecosystem pollution, suggesting sustainability is not enough. Architects and developers can now choose materials and systems that have a restorative effect on the environment. Bamboo can play a key role. Some grows so large it is called timber bamboo- 120 feet high and 13" diameter. Thick bamboo poles are 2-3 times stronger than comparable size of wood timber. Products produced from bamboo include structural beams, flooring, wall paneling, fencing and "Plyboo", Bamboo plywood. Bamboo pulp is used for paper-making; briquettes for fuel, raw material for housing construction; and rebar for reinforced concrete beams and many more sustainable by-products of environmental restoration.

Resources

Environmental Bamboo Foundation

Why Bamboo.... Here's why...
www.bamboocentral.org

About Bamboo, the Giant Grass
www.bambooliving.com