Woods for outdoor projects

Advantages and disadvantages of 9 outdoor woods.

Choose wisely

Although no wood is completely immune from rotting and insect damage, some resist decay better than others. Because of naturally occurring preservatives in heartwood, insects and fungi find the woods listed in the chart on the last page undesirable. Each choice has its advantages and disadvantages, so decide which wood best suits your building needs and budget.

Woods for outdoor projects

The three most widely available and suitable exterior lumber choices, not treated with chemical preservatives, include Western red cedar, redwood, and cypress. Your geographic location will determine the availability and cost of these materials. Redwood, for example, is widely available and used in the western United States. Western red cedar is commonly sold in the Midwest, and eastern U.S. cypress, which grows throughout the South and Southeast, often gets the nod in those locales due to its availability and economical price.

Western red cedar and redwood stock tend to appear straight-grained and are dimensionally stable and naturally decay resistant. Both, however, can split when driving fasteners. Also, both species bleed tannins that make using fasteners and painting more problematic. The tannins appear as stains around fasteners and can even show through painted surfaces. Proper prepping of the wood, however, lets it accept all wood stains and clear finishes.

The third major player, cypress, grows in swamps and has a conical base, with roots that seem to stand out of the water. Its sapwood is almost white, while the heartwood color varies from a light yellow brown to a reddish brown and dark brown. Inland cypress has the lighter-colored heartwood. It features beautiful ash like grain patterns and accepts finish as readily as redwood or cedar.

Treated woods are common choices

Early in 2004, the old CCA (chromated copper arsenate) treatment that contained arsenic was replaced by various treatments, but the most common is ACQ (alkaline copper quat). In spite of its shortcomings, ACQ-treated wood holds up well. It might crack, warp, or shrink, but it won't rot or prove tasty to insects.

ACQ is a water-based preservative forced deep into the lumber, usually Southern yellow pine. Consequently, the lumber is saturated when banded and shipped. This practice makes treated wood heavy and prone to the troubles listed previously. To avoid these tendencies, you can air-dry treated lumber for two warm months, or purchase KDAT (kiln-dried-after-treatment) lumber. The downside: cost (usually double the wet stuff) and the need to special-order it from lumberyards or home centers beforehand.

Because the preservatives are accepted only by the sapwood, heartwood of pressure-treated lumber is not decay resistant, typically appearing tan or pink instead of green.

White oak

White oak, the "whiskey barrel" wood, differs from red oak in that it is much less porous.

Moisture can't wick up its end grain. Super-strong, white oak features stainable, straight-grained wood with heartwood that resists decay. Like redwood and cedar, it splits rather easily, so you do need to predrill screw holes for fasteners.

Top of the line

Ipe, a relative newcomer, is imported from Central and South America, where it grows rapidly. Also called Brazilian walnut and ironwood, it is so dense that it barely floats. Strong and stable, the functional life of ipe can be as long as 40 years if left untreated. It resists movement, surface checks, warping, cracking, decomposition, and denting. Also, while it is expensive (and sometimes hard to find), ipe is comparably priced with many composite wood products.

Teak is still available in small quantities, but you'll pay a hefty price for it. Largely associated with boat building, it doubles as an excellent choice for small outdoor projects where you want the beauty of the wood to speak as loudly as the craftsmanship.

Mahogany serves as a great project wood. It machines, sands, and finishes well, but costs more than ipe. Be sure to ask for African or Honduran mahogany, (avoiding Philippine mahogany). One nice thing: You can buy it in broad thicknesses for use in large projects.

Rot proof composites

Wood/plastic composites (WPCs) are made from thermoplastic resins, wood flour, and wood fiber. Some make use of recycled material, but all are rot proof. Composites have no defects, and do not compress like wood. This density poses special problems for fastening and movement. Solid composites have greater expansion and contraction rates, especially along their lengths. They heat up in sunlight, and don't absorb paint and stain. Also, they lack rigidity. However, they don't splinter and offer good traction in wet conditions.

Type		Density (1)	Unfinished rot resistance	Rigidity	Finishability (2)	Ease of use (3)	Stability	Stain acceptance	Cracking tendencies	Warping tendencies	Availability (4)	Cost per 1x6 lin. ft. (5)	Best use
American softwoods	Western red cedar	L	B-	B-	C	A	B	A	B-	B-	A*	$1	All purposes
	Redwood	L	B	B	C	A	B	A	B-	B	C	$2–$7*	All purposes
	Cypress	M	B	B	C	A	B	A	B	B	B*	$2	All purposes
	Pressure-treated pine	L	A	B	B	A	B	B	C	C	A	$1	Deck frame, decking, ramps
Hardwoods	White oak	H	A	A	A	C	B	A	B	B	C	$2	Benches, arbors, chairs
	Ipe	VH	A	A	B	D	A	D-	A	A	C	$3	All purposes
	Teak	H	A	A	C*	C+	A	D	A	A	D	$15	Small items
	Mahogany (African, Honduran)	H	A	B	A	A	A	A	A	B	B	$5–$7	Furniture projects
Composites	Solid	VH	A	D	D-	D	A	D	A	A	A	$2–$3	Decking, ramps, railings
	Hollow core	VH	A	C+	D-	C	A	D	A	A	A	$2–$3	Decking, ramps

1. L-Low, M-medium, H-high, VH-very high
2. Must remove waxy resin with acetone
3. Includes difficulty of driving fasteners, cutting, weight
4. Depends on region
5. Price depends on grade

A excellent
B good
C fair
D poor