

# Ipé



Often marketed  
as a teak substitute,  
this strong wood is good  
for more than decking

BY  
JON ARNO



A few months ago, a customer came to our lumberyard in search of some decking. We stock only treated pine and western red cedar for this purpose, but he was emphatic about wanting something more wear resistant and durable. I gave him price quotes on teak and ipé. He wisely opted for ipé, and I had the material shipped directly to him from our supplier. It was a done deal until several days later when he returned with a board in hand. He wanted to know what kind of wood they'd mistakenly mixed in with his shipment of ipé. I assured him that the lustrous and beautifully figured, chocolate-brown sample he held was every bit as much an example of ipé as the olive-drab boards that made up the rest of the load. That greenish color seems to have given American woodworkers a bad case of tunnel vision when it comes to what ipé is and what it's good for. We may think it's good only for decking, but nothing could be further from the truth. The mystery is how a single wood could vary so much from sample to sample. The answer is steeped in botany and chemistry, and this wood deserves a closer look.

## Ipé comes from more than one tree

The imported wood we refer to here in the United States as ipé is cut from more than a dozen species belonging to the genus *Tabebuia*. This genus belongs to the same botanical family as our native catalpa: Bignoniaceae, usually referred to as the Trumpet Creeper family because of its many and often attractive flowering vines. While the family is not a major player in the flora of temperate North America, it is well represented in the tropics, where *Tabebuia* is its most important timber-producing genus.

Although in the United States ipé has been sold primarily as decking material, these many *Tabebuia* species are among the most plentiful and useful of all the timbers within their native range. They're used for everything from heavy construction to fine furniture veneers. These woods are so varied in their texture, density and appearance that the lumber industry sorts them into somewhat loose categories based on the properties of the wood rather than by the species that produce them.

In terms of developing a positive image, ordinary ipé decking is the worst ambassador the *Tabebuia* genus could send abroad. But virtually all members of this genus, even many of the species that normally produce the sort of grayish-green ipé, have the potential to produce stunningly beautiful woods when growing conditions are just right. The keys to beauty in this case rest with both the wood's anatomy and its chemistry.

Ipé has a somewhat unusual wood anatomy for a tropical timber. In those climates within its native range where there is a pronounced dry season, the tree becomes what is called dry-season deciduous. In other words, it sheds its leaves on a roughly annual basis to conserve moisture. With many species of ipé, this seasonal event is actually spectacular because of the flowers that follow. But more germane to woodworking, this short dry-season dor-

**A good choice for outdoor furniture. Ipé is perhaps more decay resistant than even teak, for which it has been sold as a substitute. The color from one board to another ranges from greenish hues to dark brown tones.**

mancy has a positive impact on the appearance of the wood, producing rings somewhat akin to the annual rings in temperate hardwoods. The second key to ipé's potential beauty stems from its natural chemistry. Ipé contains a compound called lapachol, often seen as a yellowish powder in the vessel lines on the surface of the wood. Lapachol is a mixed blessing, but on the positive side it tends to react to alkaline solutions to produce reddish-brown pigments. As a result, when grown in alkaline soil, the tree can produce fabulously colorful heartwood—often a dark reddish brown enhanced with black, marblelike veining. Logs with exceptionally attractive heartwood are converted into premium veneers or sometimes sold at hefty prices under other names such as amapa, bethabara, cortez, pau d'Arco and poui, to name a few.

### Durability and density come with some drawbacks

The chemical makeup of ipé appears to give the wood its outstanding resistance to decay. Lapachol, the same compound that allows the wood to develop such beautiful pigmentation, seems to have potent antiseptic properties. The downside is that clinical tests confirm that lapachol compounds found in these woods are potentially serious allergens, capable of causing dermatitis and respiratory problems for some woodworkers.

The term durability, as used in wood technology, usually relates to decay resistance. But many factors contribute to making a wood durable, meaning that it will last a long time in abusive applications. Extreme density can dull cutting edges, but it also gives wood the ability to withstand heavy wear, and natural stability helps it resist checking and distortion. With ipé, these other factors

### WHERE IT COMES FROM

Brazil accounts for the majority of ipé lumber on the international market, but timber-producing species belonging to the *Tabebuia* genus are found throughout Latin America and on many islands in the Caribbean. The trees, often among the largest in the forest, produce a multitude of beautiful, orchidlike flowers, ranging in color from yellow to coral pink.



are a bit of a mixed bag. Density is one of its assets in that the oven-dry specific gravity of the various species of ipé ranges between 0.85 and 0.97, making them comparable to the rosewoods in terms of weight and strength. This almost stonelike density surpasses that of teak and other popular decking species by such a wide margin that none of them can compete with ipé's resistance to wear.

Stability, on the other hand, is not ipé's strong suit. At first glance, ipé's shrinkage statistics fall somewhere between rather ordinary and very good. Its average volumetric shrinkage, green to oven-dry, of 13.2% is about the same as our native red oak, making it perhaps a tad high

but not excessive. Its tangential (T) shrinkage of 8% and radial (R) shrinkage of 6.6% yield a very low T/R ratio of only 1.21:1. This is even lower than genuine mahogany. While the 13.2% volumetric shrinkage isn't terribly high, with a wood as dense as ipé it is high enough to create some powerful drying stresses that can cause surface checks. These checks tend to be small and numerous rather than catastrophic, and though not particularly attractive, they seldom compromise the structural integrity of the wood.

From a conservationist point of view, there is a benefit in choosing ipé as a substitute for other, more endangered tropical woods, such as teak, lignum vitae and rosewood. The many species that provide ipé lumber are plentiful and tend to grow in almost pure stands—all factors that make logging, processing and replenishment more manageable and less damaging to the environment. □

*Jon Arno often graces the pages of Fine Woodworking with his thorough and lively profiles of various woods.*

### Working with ipé

Because of its interlocked, swirling grain, ipé is prone to tearout when machined. To remove tearout, sand with 80 grit and 120 grit dust, then switch to a card scraper. If you wish to handplane ipé, choose a high-angle (60°) plane, such as one made by H.N.T. Gordon.



**Surface checks are not a problem.** Drying stresses can cause hairline cracks on the surface and end grain of some ipé lumber, but these checks rarely cause structural troubles.

