

Bridge Decking and Rail Components



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Designers, manufacturers and their customers have long recognized the aesthetic, life cycle performance and environmental benefits associated with naturally durable hardwoods like Iron Woods® Ipe in bridge construction.



A stream anchor from the Margarita was found with a well-preserved wooden stock. An analysis by Forest Products Laboratories of the U.S. Department of Agriculture showed that it was made of a wood known as ipe or lapacho. On its crown are several well-preserved inscriptions: the date, 1618, and a foundry mark.

140 years – That's Durability

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An environmentally superior alternative to Treated Wood, PVC or Composites... products carrying the 'Green By Nature™ 'Build with Conscience' Certificate of Compliance meet a specific set of Controlled Wood, Chain of Custody, Life Cycle Analysis and Due Diligence criteria that support environmental sustainability initiatives as follows....

All of the material carrying the Green By Nature Certificate of Compliance have been verified as being, legally harvested, transported, exported, imported and documented in compliance with all country of origin, international and domestic laws, rules, regulations and treaties pertaining to the fair and legal trade of forest products including but not limited to the U.S. Department of Agriculture Lacey Act, ITTA (International Tropical Timber Trade Agreement), CITES (Convention On The International Trade of Endangered Species), and U.S. Buy American Act as per Green By Nature Controlled Wood Chain Of Custody Policies and Procedures.

Additionally, material carrying the Green By Nature Certificate of Compliance, are derived from a naturally occurring, renewable and sustainable resource base and are harvested from forests that have not been converted to plantations or where civil rights are violated. These materials are 100% organic and grown without the use of genetic modification or chemical fertilization and are regenerated naturally or by seeding and replanting. The natural service life of these materials exceeds their natural growth cycle. These materials trap and store carbon and they are able to be reclaimed, reused or recycled. These materials do not require for service any petroleum based or inorganic chemical treatments adhesives or coatings. These materials do not require for service any specialized handling storage or disposal procedures and generate zero post-industrial or post-consumer non-biodegradable waste. These materials are also safe for human and animal contact and meet Low VOC emission standards and meet International Building Code and International Residential Code requirements for naturally durable wood.

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The following is a summary of technical information designed to assist in the material selection and specification process.

Technical Data - Iron Woods® Ipe

Features	Iron Woods® Ipe
Composition	Naturally Durable Hardwood Untreated
Species	Tabebuia spp. (Lapacho Group)
Surface	Dressed / Profiled / Roughsawn
Color	Natural
Installation	Stainless Steel Fasteners
Max overhand beyond joist	6"
Weight per net bf AD 18%+ (avg)	5.5 - 6 lbs
Weight per net bf KD 18% - (avg)	5 - 5.5 lbs
Lengths	To 20'

Property Description	ASTM Standard	Iron Woods® Ipe
Modules of Elasticity	ASTM D-143	3145000 psi
Bending Strength	ASTM D-143	22,475 psi
Compression Parallel to Grain	ASTM D-143	13,140 psi
Compression Perpendicular to Grain	ASTM D-143	3,595 psi
Shear Parallel to Grain	ASTM D-143	2,290 psi
Screw Pull Out		Avg. 1102 lbs Max Load
Coefficient of Friction - Leather	ASTM C1028-89	Dry - .55 FP / Wet .79 FP (ADA Compliant)
Coefficient of Friction - Neolite	ASTM C1028-89	Dry - .73 FP / Wet .69 FP (ADA Compliant)
Surface Burning	ASTM E-84 (1989)	NFPA Class A, UBC Class 1
Flame Spread (20 minutes)	ASTM E-84 (1989)	0

Flame Spread (10 minutes)	ASTM E-84 (1989)	5
Smoke Developed (10 minutes)	ASTM E-84 (1989)	3
Fuel Contribution (10 minutes)	ASTM E-84 (1989)	0
Acute Inhalation	NYS Modified Pittsburg Protocol	LC 50 Of 63.60g.
Combustion Toxicity Test	NYSUFPBC, Art 15, Part 1120,9 NYCRR 1120	Pass (19.7g or greater)

Surface Burning	ASTM E84 (2007)	NFPA Class B
Calculated Flame Spread (10 minutes)	ASTM E84 (2007)	33.37
Flame Spread Index	ASTM E84 (2007)	35
Calculated Smoke Developed	ASTM E84 (2007)	273.3
Smoke Developed Index	ASTM E84 (2007)	250

Additional Compliance Fire

City Of NY Dept. of Buildings	Fire Retardant Wood Code Sections 27-328	MEA # 220-01-M (Approved)
San Francisco Building Code	Code Section 1511.5 (rooftop decks)	(Approved)
CalFire Wildlife Urban Interface Areas	Code Section Chapter 7A (CSFM 12-7A-4)	(Approved)
Materials and Construction Methods	Exterior Wildlife Exposure: Decking	

International Building Code Fire Resistant Wood (Compliant)

International Residential Code Fire Resistant Wood (Compliant)

Additional Compliance Technical

International Building Code Naturally Durable Wood (Class 1 / Compliant)

International Residential Code Naturally Durable Wood (Class 1 / Compliant)

