Massaranduba Decking Span Chart & Structural Reference

Contractor Quick Sheet

Residential Deck Span Table

Board Profile	Actual Size	Max Span (Perp.)	Max Span (45°)	Live Load
1×4	¾" × 3½"	16" O.C.	12" O.C.	100 lb/sf
1×6	¾" × 5½"	16" O.C.	12" O.C.	100 lb/sf
5/4×4	1" × 3½"	24" O.C.	16" O.C.	100 lb/sf
5/4×6	1" × 5½"	24" O.C.	16" O.C.	100 lb/sf
2×4	1½" × 3½"	24" O.C.	16" O.C.	100 lb/sf
2×6	1½" × 5½"	32" O.C.	24" O.C.	100+ lb/sf

Note: Massaranduba is sold in nominal sizing. Actual dimensions shown above.

Massaranduba Structural Properties

Property	Value	Test Standard
Janka Hardness	3,190 lbf	—
Bending Strength (MOR)	29,690 psi	ASTM-D143
Stiffness (MOE)	3,332,000 psi	—
Max Crushing Strength	13,380 psi	—
Specific Gravity	0.85–1.08	—
Air-Dry Density	66–67 lb/ft³	—
Shrinkage (R / T / V)	6.3% / 9.4% / 16.8%	—
Fire Rating	See supplier for test data	—

Load Rating Notes

- **Residential Standard:** 100 lb/sf live load per IRC
- **Commercial/Heavy Traffic:** Use 5/4 or 2× profiles with reduced joist spacing (12"–16" O.C.)
- **Deflection:** Span ratings designed for near-zero deflection under standard loads
- **Diagonal Installation:** Reduce max span by one increment (e.g., 16" → 12")

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Massaranduba vs. Common Decking Materials

Material	Janka Hardness	Bending Strength	Typical Lifespan
Massaranduba	3,190 lbf	29,690 psi	30+ years
Ipe	3,680 lbf	25,400 psi	50–75+ years
Cedar	350 lbf	6,500 psi	15–20 years
Pressure-Treated Pine	690 lbf	9,900–14,500 psi	10–15 years
Composite	940–1,390 lbf	1,423–4,500 psi	25–30 years

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Key Assumptions

1. Joists are properly secured and level
2. Standard residential foot traffic (40 lb/sf dead load + 100 lb/sf live load)
3. Air-dried lumber at ~12% moisture content
4. Adequate ventilation below deck (min. 18" clearance recommended)
5. Proper pitch for drainage (min. ¼" per 10 ft)
6. Massaranduba may check in arid climates — consider local conditions

Always verify with local building codes. This guide is for reference only.

Fire Performance Disclosure

Massaranduba's density and composition suggest favorable fire resistance characteristics, but specific ASTM E84 or equivalent test documentation should be obtained from the supplier for the specific Massaranduba product and dimensions being specified.

No wood product is fireproof. Fire test results are product-specific and may not transfer across suppliers. Local codes and the Authority Having Jurisdiction (AHJ) have final say on material acceptance. Installation method, board dimension, surface treatments, and substrate all affect field fire performance. WUI zone projects may require additional testing and listing beyond standard ASTM E84.

Disclaimers

Values shown are representative averages from published sources (USDA FPL Wood Handbook, ASTM reports, industry references). Wood is a natural material; actual properties vary by origin, growth conditions, moisture content, and specimen. Typical variation of 10–20% within a species is normal. This document is for general reference only and does not constitute an engineering specification, warranty, or professional engineering advice. Structural applications require design values from recognized grading agencies and compliance with applicable building codes (NDS, IRC/IBC). Always consult a licensed engineer for structural design. Exposure to hardwood dust may cause respiratory and skin irritation — use appropriate PPE. Ipe (Handroanthus spp.) and Cumaru (Dipteryx odorata) are listed in CITES Appendix II; ensure legal sourcing and Lacey Act compliance.