

PART 1 — BAMBOO JOINERY TEMPLATE GUIDE

The joint is the weakest point in a bamboo structure. Use only the joint types below for structural applications.

JOINT TYPE	APPLICATION	Min. Bolt Ø	Pegs?	Lashing?	Structural Use
Square lashing	Non-structural, décor	—	No	Yes	Light only
Clamp joint	Secondary members	M10	Yes	No	Moderate
Fish-mouth joint	Rafter-to-beam	M12	Yes	Yes	Structural
End-to-end splice	Column extension	2 × M12	Yes	Yes	Structural
Corner knee brace	Frame corners	M12	Yes	Yes	Structural

✓	Item	Notes
☐	Bamboo culm: minimum 3 years old (check node spacing — mature = closer nodes at top)	
☐	No cracks, splits, or insect holes visible on any structural culm	
☐	All culms air-dried minimum 4 weeks before use in structure	
☐	Borate treatment completed before jointing (see Part 2)	
☐	All hollow ends filled with mortar or capped with wood plugs	
☐	Bolts installed with washers; over-tightening cracks the culm — finger-tight + 1/4 turn	
☐	No direct soil contact — bamboo elevated minimum 150 mm above finished ground	

PART 2 — BORATE CURING (TREATMENT) LOG

Boron salt treatment is essential. Treat every culm before installation regardless of species.

TREATMENT PARAMETER	SPECIFICATION	RECORDED
Solution concentration	10% borax or disodium octaborate	
Solution temperature	Min 40 deg C for absorption	
Soak method	Full submersion in tank/trough	
Minimum soak duration	48 hours (structural) / 24 hrs (non-struct.)	
Air-dry after treatment	Minimum 14 days shade-dried	

Batch #	Culm Count	Soak Start	Soak End	Solution Conc.	Air-Dry End	Ready?

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★ Untreated bamboo in humid or tropical climates will be infested within 1–3 years. Treatment is not optional.